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(54) Title: DRUG THERAPY FOR CELIAC SPRUE

(57) Abstract: Celiac Sprue and/or dermatitis herpetiformis are treated by interfering with HLA binding of immunogenic gluten peptides. The antigenicity of gluten oligopeptides and the ill effects caused by an immune response thereto are decreased by administration of an HLA-binding peptide inhibitor. Such inhibitors are analogs of immunogenic gluten peptides and (i) retain the ability to bind tightly to HLA molecules; (ii) retain the proteolytic stability of these peptides; but (iii) are unable to activate disease-specific T cells.

DRUG THERAPY FOR CELIAC SPRUE

CROSS-REFERENCE TO RELATED APPLICATIONS

[01] This application claims priority to U.S. Provisional Application 60/380,761 filed May 14, 2002; to U.S. Provisional Application 60/392,782 filed June 28, 2002; and to U.S. Provisional application no. 60/422,933, filed October 31, 2002, and to U.S. Provisional Application 60/428,033, filed November 20, 2002, each of which are herein specifically incorporated by reference.

BACKGROUND OF THE INVENTION

[02] In 1953, it was first recognized that ingestion of gluten, a common dietary protein present in wheat, barley and rye causes a disease called Celiac Sprue in sensitive individuals. Gluten is a complex mixture of glutamine- and proline-rich gliadin and glutenin molecules and is thought to be responsible for induction of Celiac Sprue. Ingestion of such proteins by sensitive individuals produces flattening of the normally luxurious, rug-like, epithelial lining of the small intestine known to be responsible for efficient and extensive terminal digestion of peptides and other nutrients. Other clinical symptoms of Celiac Sprue include fatigue, chronic diarrhea, malabsorption of nutrients, weight loss, abdominal distension, anemia, as well as an enhanced risk for the development of osteoporosis and intestinal malignancies such as lymphoma and carcinoma. The disease has an incidence of approximately 1 in 200 in European populations and is believed to be significantly under diagnosed in other populations.

[03] A related disease is dermatitis herpetiformis, which is a chronic eruption of the skin characterized by clusters of intensely pruritic vesicles, papules, and urticaria-like lesions. IgA deposits occur in almost all normal-appearing and perilesional skin. Asymptomatic gluten-sensitive enteropathy is found in 75 to 90% of patients and in some of their relatives. Onset is usually gradual. Itching and burning are severe, and scratching often obscures the primary lesions with eczematization of nearby skin, leading to an erroneous diagnosis of eczema. Strict adherence to a gluten-free diet for prolonged periods may control the disease in some patients, obviating or reducing the requirement for drug therapy. Dapsone, sulfapyridine, and colchicines are sometimes prescribed for relief of itching.

[04] Celiac Sprue (CS) is generally considered to be an autoimmune disease and the antibodies found in the serum of the patients support the theory that the disease is immunological in nature. Antibodies to tissue transglutaminase (TG2, tTGase or tTG) and gliadin appear in almost 100% of the patients with active CS, and the presence of such antibodies, particularly of the IgA class, has been used in diagnosis of the disease.

[05] The large majority of patients express the HLA-DQ2 [DQ(a1*05, b1*02)] and/or DQ8 [DQ(a1*03, b1*0302)] molecules. It is believed that intestinal damage is caused by interactions between specific gliadin oligopeptides and the HLA-DQ2 or DQ8 antigen, which in turn induce proliferation of T lymphocytes in the sub-epithelial layers. T helper 1 cells and cytokines apparently play a major role in a local inflammatory process leading to villous atrophy of the small intestine.

[06] At the present time, there is no good therapy for the disease, except to avoid completely all foods containing gluten. Although gluten withdrawal has transformed the prognosis for children and substantially improved it for adults, some people still die of the disease, mainly adults who had severe disease at the outset. A leading cause of death is lymphoreticular disease, especially intestinal lymphoma. It is not known whether a gluten-free diet diminishes this risk. Apparent clinical remission is often associated with histologic relapse that is detected only by review biopsies or by increased titers of antibodies to tTGase (also called EMA antibodies).

[07] Gluten is so widely used, for example, in commercial soups, sauces, ice creams, hot dogs, and other foodstuffs, that patients need detailed lists of foodstuffs to avoid and expert advice from a dietitian familiar with celiac disease. Ingesting even small amounts of gluten may prevent remission or induce relapse. Supplementary vitamins, minerals, and hematinics may also be required, depending on deficiency. A few patients respond poorly or not at all to gluten withdrawal, either because the diagnosis is incorrect or because the disease is refractory. In the latter case, oral corticosteroids (e.g., prednisone 10 to 20 mg bid) may induce response.

[08] In view of the serious and widespread nature of Celiac Sprue and the difficulty of removing gluten from the diet, better methods of treatment are of great interest. In particular, there is a need for treatment methods that allow the Celiac Sprue individual to eat gluten-containing foodstuffs without ill effect or at least to tolerate such foodstuffs in small or moderate quantities without inducing relapse. The present invention meets this need for better therapies for Celiac Sprue.

SUMMARY OF THE INVENTION

[09] In one aspect, the present invention provides methods for treating Celiac Sprue and/or dermatitis herpetiformis and the symptoms thereof by administration of an HLA-binding peptide inhibitor to the patient. In one embodiment, the HLA-binding peptide inhibitor employed in the method is an analog of an immunogenic gluten peptide, where an immunogenic gluten peptide is altered by the replacement of one or more amino acids, where the replacement may be another naturally occurring amino acid, non-naturally occurring amino acids, modified amino acids, amino acid mimetics, and the like. Analogs of

immunogenic gluten peptides that (i) retain the ability to bind tightly to HLA molecules; (ii) retain the proteolytic stability of these peptides; but (iii) are unable to activate disease-specific or other T cells, are useful agents to treat Celiac Sprue.

[10] In another aspect, the present invention provides novel HLA-binding peptide inhibitors and methods for treating Celiac Sprue and/or dermatitis herpetiformis by administering those compounds.

[11] In another aspect, the invention provides pharmaceutical formulations comprising an HLA-binding peptide inhibitor and a pharmaceutically acceptable carrier. In one embodiment, such formulations comprise an enteric coating that allows delivery of the active agent to the intestine, and the agents are stabilized to resist digestion or acid-catalyzed modification in acidic stomach conditions. In another embodiment, the formulation also comprises one or more glutenases, as described in U.S. Provisional Application 60/392,782 filed June 28, 2002; and U.S. Provisional Application 60/428,033, filed November 20, 2002, both of which are incorporated herein by reference. The invention also provides methods for the administration of enteric formulations of one or more HLA-binding peptide inhibitors to treat Celiac Sprue.

[12] In another aspect, the invention provides methods for screening candidate compounds to determine their suitability for use in the subject methods, by assessing the ability of a candidate agent for its ability to bind to HLA molecules, and/or to inhibit the activity of T cells reactive against gluten antigens.

[13] Methods and compositions are provided for modeling the structure of a soluble (extracellular) domain of human HLA-DQ2 bound to an immunodominant gluten epitope, and for identifying molecules that will compete with the gluten peptide for MHC binding. In one embodiment, the methods of the invention utilize structural modeling, and the identification and design of molecules having a particular structure. The structural data provided herein is used for the rational design of drugs that affect immune system activation in Celiac Sprue and/or dermatitis herpetiformis. Analysis of the crystal structure in conjunction with sequence data identifies residues in the immunogenic gluten peptide that are important for interaction with the MHC molecule, and those that are accessible for interaction with the T cell antigen receptor. This information provides a basis for rational drug design.

[14] These and other aspects and embodiments of the invention and methods for making and using the invention are described in more detail in the description of the drawings and the invention, the examples, the claims, and the drawings that follow.

DETAILED DESCRIPTION OF THE EMBODIMENTS

[15] Celiac Sprue and/or dermatitis herpetiformis are treated by interfering with HLA binding of immunogenic gluten peptides. Therapeutic benefit can be enhanced in some individuals by increasing the digestion of gluten oligopeptides, whether by pretreatment of foodstuffs to be ingested or by administration of an enzyme capable of digesting the gluten oligopeptides, together with administration of an HLA-binding peptide inhibitor. Gluten oligopeptides are highly resistant to cleavage by gastric and pancreatic peptidases such as pepsin, trypsin, chymotrypsin, and the like, and their prolonged presence in the digestive tract can induce an autoimmune response. The antigenicity of gluten oligopeptides and the ill effects caused by an immune response thereto can be decreased by administration of an HLA-binding peptide inhibitor. Such inhibitors are analogs of immunogenic gluten peptides and (i) retain the ability to bind tightly to HLA molecules; (ii) retain the proteolytic stability of these peptides; but (iii) are unable to activate disease-specific or other T cells.

[16] Methods and compositions are provided for the administration of one or more HLA-binding peptide inhibitors to a patient suffering from Celiac Sprue and/or dermatitis herpetiformis. In some embodiments and for some individuals, the methods of the invention remove the requirement that abstention from ingestion of glutens be maintained to keep the disease in remission. The compositions of the invention include formulations of tTGase inhibitors that comprise an enteric coating that allows delivery of the agents to the intestine in an active form; the agents are stabilized to resist digestion or alternative chemical transformations in acidic stomach conditions. In another embodiment, food is pretreated or combined with glutenase, or a glutenase is co-administered (whether in time or in a formulation of the invention) with an HLA-binding peptide inhibitor of the invention.

[17] The subject methods are useful for both prophylactic and therapeutic purposes. Thus, as used herein, the term "treating" is used to refer to both prevention of disease, and treatment of a pre-existing condition. The treatment of ongoing disease, to stabilize or improve the clinical symptoms of the patient, is a particularly important benefit provided by the present invention. Such treatment is desirably performed prior to loss of function in the affected tissues; consequently, the prophylactic therapeutic benefits provided by the invention are also important. Evidence of therapeutic effect may be any diminution in the severity of disease, particularly diminution of the severity of such symptoms as fatigue, chronic diarrhea, malabsorption of nutrients, weight loss, abdominal distension, and anemia. Other disease indicia include the presence of antibodies specific for glutens, antibodies specific for tissue transglutaminase, the presence of pro-inflammatory T cells and cytokines, and degradation of the villus structure of the small intestine. Application of the methods and compositions of the invention can result in the improvement of any and all of these disease indicia of Celiac Sprue.

[18] Patients that can benefit from the present invention include both adults and children. Children in particular benefit from prophylactic treatment, as prevention of early exposure to toxic gluten peptides can prevent development of the disease into its more severe forms. Children suitable for prophylaxis in accordance with the methods of the invention can be identified by genetic testing for predisposition, *e.g.* by HLA typing; by family history, and by other methods known in the art. As is known in the art for other medications, and in accordance with the teachings herein, dosages of the HLA-binding peptide inhibitors of the invention can be adjusted for pediatric use.

[19] Because most proteases and peptidases are unable to hydrolyze the amide bonds of proline residues, the abundance of proline residues in gliadins and related proteins from wheat, rye and barley can constitute a major digestive obstacle for the enzymes involved. This leads to an increased concentration of relatively stable gluten derived oligopeptides in the gut. These stable gluten derived oligopeptides, called "immunogenic oligopeptides" herein, bind to MHC molecules, including HLA HLA-DQ2 or DQ8 molecules, to stimulate an immune response that results in the autoimmune disease aspects of Celiac Sprue. In some cases the enzyme tissue transglutaminase selectively deamidates certain glutamine residues in these peptides, thereby enhancing their potency for the DQ2 ligand binding pocket.

[20] HLA-binding peptide inhibitors of the present invention are analogs of immunogenic gluten oligopeptides that (i) retain the ability to bind tightly to HLA molecules; (ii) retain the proteolytic stability of these peptides; but (iii) are unable to activate disease-specific or other T cells. The inhibitor may comprise oligomers of analogs. Multivalent gluten derived epitopes have markedly enhanced immunogenicity. Consequently, multivalent oligopeptides analogs can also be expected to have increased potency for MHC molecules. In addition, these longer peptides can be more resistant toward intestinal brush border proteolysis.

[21] An immunogenic gluten oligopeptide analog is an analog of a peptide that comprises at least about 8 residues, and may comprise at least about 10 residues; at least about 11 residues, at least about 12 residues, at least about 13 residues, at least about 14 residues, or more, where the term "residue" refers to naturally occurring amino acids, non-naturally occurring amino acids, and amino acid mimetics or derivatives; and where the gluten peptide is altered by the replacement of one or more amino acids. The replacement may be another naturally occurring amino acid, non-naturally occurring amino acids, modified amino acids, amino acid mimetics, and the like; and may further be derivitized to further reduce the affinity of these ligands for disease-specific T cell receptors. The sequence of immunogenic gluten oligopeptides can be determined by one of skill in the art. Immunogenic gliadin oligopeptides are peptides derived during normal human digestion of gliadins and related storage proteins as described above, from dietary cereals, *e.g.* wheat, rye, barley, and the

like. Such oligopeptides act as antigens for T cells in Celiac Sprue. For binding to Class II MHC proteins, immunogenic peptides are usually from about 8 to 20 amino acids in length, more usually from about 10 to 18 amino acids. Such peptides may include PXP motifs, such as the motif PQPQLP. Determination of whether an oligopeptide is immunogenic for a particular patient is readily determined by standard T cell activation and other assays known to those of skill in the art.

[22] Among gluten proteins with potential harmful effect to Celiac Sprue patients are included the storage proteins of wheat, species of which include *Triticum aestivum; Triticum aethiopicum; Triticum baeoticum; Triticum militinae; Triticum monococcum; Triticum sinskajae; Triticum timopheevii; Triticum turgidum; Triticum urartu, Triticum vavilovii; Triticum zhukovskyi; etc.* A review of the genes encoding wheat storage proteins may be found in Colot (1990) Genet Eng (N Y) **12**:225-41. Gliadin is the alcohol-soluble protein fraction of wheat gluten. Gliadins are typically rich in glutamine and proline, particularly in the N-terminal part. For example, the first 100 amino acids of α- and γ-gliadins contain ~35% and ~20% of glutamine and proline residues, respectively. Many wheat gliadins have been characterized, and as there are many strains of wheat and other cereals, it is anticipated that many more sequences will be identified using routine methods of molecular biology. Examples of gliadin sequences include but are not limited to wheat alpha gliadin sequences, for example as provided in Genbank, accession numbers AJ133612; AJ133611; AJ133610; AJ133609; AJ133608; AJ133607; AJ133606; AJ133605; AJ133604; AJ133603; AJ133602; D84341.1; U51307; U51306; U51304; U51303; U50984; and U08287. A sequence of wheat omega gliadin is set forth in Genbank accession number AF280605.

[23] Among the immunogenic gluten oligopeptides that may be modified to generate an HLA-binding peptide inhibitor are included the peptide sequence QLQPFPQPELPYP; the sequence PQPELPY; the sequence PFPQPELPYP, PQPELPYPQPQLP, PQQSFPEQQPP, VQGQGIIQPEQPAQ, FPEQPQQPYPQQP, FPQQPEQPYPQQP, FSQPEQEFPQPQ and longer peptides containing such sequences or multiple copies of such sequences. Gliadins, secalins and hordeins contain several PQPQLPY sequences or sequences similar thereto rich in Pro-Gln residues that are high-affinity substrates for tTGase. The tTGase catalyzed deamidation of such sequences increases their affinity for HLA-DQ2, the class II MHC allele present in >90% Celiac Sprue patients. Presentation of these deamidated sequences by DQ2 positive antigen presenting cells effectively stimulates proliferation of gliadin-specific T cells from intestinal biopsies of most Celiac Sprue patients, providing evidence for the proposed mechanism of disease progression in Celiac Sprue.

[24] Analog oligopeptides of the invention comprise at least one difference in amino acid sequence from a native gluten peptide, by the replacement of an amino acid with a different

amino acid; a non-naturally occurring amino acid, a peptidomimetics, substituted amino acid, and the like. An L-amino acid from the native peptide may be altered to any other one of the 20 L-amino acids commonly found in proteins, any one of the corresponding D-amino acids, rare amino acids, such as 4-hydroxyproline, and hydroxylysine, or a non-protein amino acid, such as β-alanine, ornithine and homoserine. Also included with the scope of the present invention are amino acids that have been altered by chemical means such as methylation (e.g., α-methylvaline), deamidation, amidation of the C-terminal amino acid by an alkylamine such as ethylamine, ethanolamine, and ethylene diamine, and acylation or methylation of an amino acid side chain function (e.g., acylation of the epsilon amino group of lysine), deimination of arginine to citrulline, isoaspartylation, or phosphorylation on serine, threonine, tyrosine or histidine residues. Importantly, each of these altered amino acids provide a functional handle, *e.g.* amine, alcohol, aryl halide, and the like, which can be regioselectively derivatized to further reduce the affinity of these ligands for disease-specific T cell receptors. Peptide analogs may be further derivatized with substitutions, including, without limitation, ethers, amines, esters, amides, carbonates, carbamates, carbazates, ureas and C-C coupled derivatives. Other examples include oxidation of alcohols to ketones, followed by further modifications of the resulting carbonyl group, *e.g.* via preparation of oximes) or the carbon atom adjacent to the ketone. Such derivatives are encompassed by the term "analog".

[25] The proteolytic stability of gluten oligopeptides can be attributed, at least in part, to the presence of PXP motifs, which are resistant to enzymatic degradation. Preferred analogs of immunogenic gluten oligopeptides will comprise one or more proline residues, and may comprise one or more PXP motifs.

[26] An immunogenic gluten peptide of particular interest is the 33-mer LQLQPFPQPQLPYPQPQLPYPQPQLPYPQPQPF, which is described in detail in International Patent Application US03/04743, herein specifically incorporated by reference. This peptide is both immunogenic and highly stable to proteases. T cell epitopes present in the 33-mer peptide include, *inter alia*, PFPQPQLPY, PQPQLPYPQ, PFPQPELPY; PQPELPYPQ; PYPQPELPY and PYPQPQLPY. In one embodiment of the invention, the immunogenic gluten oligopeptide analog is an analog of a peptide that comprises at least one T cell epitope selected from the group consisting of PFPQPQLPY, PQPQLPYPQ, PFPQPELPY; PQPELPYPQ; PYPQPELPY and PYPQPQLPY.

[27] The structure of an immunogenic gluten oligopeptide bound to a presenting molecule, *e.g.* HLA-DQ2; HLA-DQ8; *etc.* can be determined, *e.g.* by crystallography, NMR, *etc.*, and used to identify residues in a peptide that are involved in the binding to the MHC molecule, and that are involved in the binding to a T cell antigen receptor. Residues identified as accessible for interacting with the T cell receptor may be modified to decrease

the interaction, *e.g.* by increasing steric hindrance, altering hydrophilicity or hydrophobicity, *etc.* Residues identified as involved in interaction with the binding cleft of an MHC molecule may be modified to increase the interaction, *e.g.* by incorporating amino acids known to interact strongly with the binding cleft.

[28] One inhibitor of interest is an oligopeptide or peptidomimetic that comprises the sequence PXPQPELPY, where X is Gly, Ala, Tyr, Trp, Arg, Lys, p-iodo-Phe, 3-iodo-Tyr, p-amino-Phe, 3-amino-Tyr, hydroxylysine, ornithine, Asp, Glu, or any residue that is substantially bulkier or hydrophilic than Phe. Examples of suitable modifications include ethers, amines, esters, amides, carbonates, carbamates, carbazates, ureas and C-C coupled derivatives. Other examples include oxidation of alcohols to ketones, followed by further modifications of the resulting carbonyl group (e.g. via preparation of oximes) or the carbon atom adjacent to the ketone. The peptide may comprise modifications that increase binding potency to an MHC molecule, by varying residues that facilitate peptide docking into the binding cleft. Examples of such residues include Gln-4, Glu-6, Leu-7, and Tyr-9 (numbering based on the epitope PFPQPELPY). Each of these residues interacts closely with several residues in the DQ2 binding pocket. By using structure-based molecular design methods, these interactions can be optimized.

[29] Another inhibitor of interest is a oligopeptide or peptidomimetic that comprises the sequence $PFPQX_1ELX_2Y$, where X_1 and X_2 are independently selected from 4-hydroxy-Pro (either isomer at C-4), 4-amino-Pro (either isomer atC-4), or 3-hydroxy-Pro (either isomer atC-3), and proline, with the proviso that at least one of X_1 and X_2 is a residue other than proline.

[30] Peptides and peptide analogs may be synthesized by standard chemistry techniques, including synthesis by automated procedure. In general, peptide analogs are prepared by solid-phase peptide synthesis methodology which involves coupling each protected amino acid residue to a resin support, preferably a 4-methylbenzhydrylamine resin, by activation with dicyclohexylcarbodiimide to yield a peptide with a C-terminal amide. Alternatively, a chloromethyl resin (Merrifield resin) may be used to yield a peptide with a free carboxylic acid at the C-terminus. After the last residue has been attached, the protected peptide-resin is treated with hydrogen fluoride to cleave the peptide from the resin, as well as deprotect the side chain functional groups. Crude product can be further purified by gel filtration, HPLC, partition chromatography, or ion-exchange chromatography.

[31] The present invention provides crystals and structures of HLA-DQ2 bound to antigen, where the antigen is an immunogenic gluten peptide QLQPFPQPELPYP, which may be referred to for brevity as an "HLA-DQ2/peptide complex". The structures and structural coordinates are useful in structural homology deduction, and in developing and

screening agents that affect the gluten antigen presentation and immunogenicity. The structure information may be provided in a computer readable form, *e.g.* as a database of atomic coordinates, or as a three-dimensional model. The structures are useful, for example, in modeling interactions of the HLA molecule with the antigen, effect of inhibitors, *etc.* The structures are also used to identify molecules that bind to or otherwise interact with structural elements. One aspect of the present invention provides crystals of the HLA-DQ2/peptide complex, which can effectively diffract X-rays for the determination of the atomic coordinates.

[32] The present invention further includes methods of using the structural information provided herein to derive a detailed structure of related peptide binding interactions, particularly other gluten peptides, or analogs and mimetics thereof. Such structural homology determination may utilize modeling, alone or in combination with structure determination.

[33] The present invention provides three-dimensional coordinates for the HLA-DQ2/peptide complex. Such a data set may be provided in computer readable form. Methods of using such coordinates (including in computer readable form) in drug assays and drug screens as exemplified herein, are also part of the present invention. In a particular embodiment of this type, the coordinates contained in the data set can be used to identify potential modulators of the HLA-DQ2/peptide complex, including molecules that mimic the binding of the peptide to the HLA molecule, but which lack, or are substantially diminished in the ability to stimulate a T cell response.

[34] In one embodiment, a potential agent for modulation of HLA-DQ2/peptide complex is selected by performing rational drug design with the three-dimensional coordinates determined for the crystal structures. Preferably the selection is performed in conjunction with computer modeling. Rational design may also be used in the genetic modification of immunogenic peptides by modeling the potential effect of a change in the amino acid sequence.

[35] Computer analysis may be performed with one or more of the computer programs including: GRASP, O (Jones *et al.* (1991) Acta Cryst. **A47**:110); QUANTA, CHARMM, INSIGHT, SYBYL, MACROMODEL; ICM, and CNS (Brunger *et al.* (1998) Acta Cryst. **D54**:905). In a further embodiment of this aspect of the invention, an initial drug screening assay is performed using the three-dimensional structure so obtained, preferably along with a docking computer program. Such computer modeling can be performed with one or more Docking programs such as DOC, GRAM and AUTO DOCK. See, for example, Dunbrack *et al.* (1997) Folding & Design 2:27-42.

[36] It should be understood that in the drug screening and protein modification assays provided herein, a number of iterative cycles of any or all of the steps may be performed to

optimize the selection. For example, assays and drug screens that monitor the activity of the T cells in the presence and/or absence of a potential inhibitor are also included in the present invention and can be employed as an assay or drug screen, usually as a single step in a multi-step protocol.

[37] The structure of the HLA-DQ2/peptide complex is useful in the design of agents that mimic the activity and/or specificity of the binding interaction. The structures encoded by the data may be computationally evaluated for an ability to associate with chemical entities. This provides insight into an element's ability to associate with chemical entities. Chemical entities that are capable of associating with these domains may alter immunogenicity. Such chemical entities are potential drug candidates. Alternatively, the structure encoded by the data may be displayed in a graphical format. This allows visual inspection of the structure, as well as visual inspection of the structure's association with chemical entities.

[38] In one embodiment of the invention, an invention is provided for evaluating the ability of a chemical entity to associate with any of the molecules or molecular complexes set forth above. This method comprises the steps of employing computational means to perform a fitting operation between the chemical entity and the interacting surface of the polypeptide or nucleic acid; and analyzing the results of the fitting operation to quantify the association. The term "chemical entity", as used herein, refers to chemical compounds, complexes of at least two chemical compounds, and fragments of such compounds or complexes. Molecular design techniques are used to design and select chemical entities, including inhibitory compounds, capable of binding to the HLA molecule, or to the gluten peptide. Such chemical entities may interact directly with certain key features of the structure.

[39] It will be understood by those skilled in the art that not all of the atoms present in a significant contact residue need be present in a competitive binding agent. In fact, it is only those few atoms that shape the loops and actually form important contacts that are likely to be important for activity. Those skilled in the art will be able to identify these important atoms based on the structure model of the invention, which can be constructed using the structural data herein.

[40] The design of compounds that bind to HLA-DQ2 according to this invention generally involves consideration of two factors. First, the compound must be capable of either competing for binding with an immunogenic gluten peptide; or physically and structurally associating with the HLA-DQ2 domains. Non-covalent molecular interactions important in this association include hydrogen bonding, van der Waals interactions, hydrophobic interactions and electrostatic interactions.

[41] The compound must be able to assume a conformation that allows it to interact with the binding pocket. Although certain portions of the compound will not directly participate in

these associations, those portions may still influence the overall conformation of the molecule. This, in turn, may have a significant impact on potency. Such conformational requirements include the overall three-dimensional structure and orientation of the chemical entity in relation to all or a portion of the binding pocket, or the spacing between functional groups of an entity comprising several interacting chemical moieties.

[42] Computer-based methods of analysis fall into two broad classes: database methods and *de novo* design methods. In database methods the compound of interest is compared to all compounds present in a database of chemical structures and compounds whose structure is in some way similar to the compound of interest are identified. The structures in the database are based on either experimental data, generated by NMR or x-ray crystallography, or modeled three-dimensional structures based on two-dimensional data. In *de novo* design methods, models of compounds whose structure is in some way similar to the compound of interest are generated by a computer program using information derived from known structures, *e.g.* data generated by x-ray crystallography and/or theoretical rules. Such design methods can build a compound having a desired structure in either an atom-by-atom manner or by assembling stored small molecular fragments. Selected fragments or chemical entities may then be positioned in a variety of orientations, or docked, within the interacting surface of the RNA. Docking may be accomplished using software such as Quanta (Molecular Simulations, San Diego, CA) and Sybyl, followed by energy minimization and molecular dynamics with standard molecular mechanics force fields, such as CHARMM and AMBER.

[43] Specialized computer programs may also assist in the process of selecting fragments or chemical entities. These include: SmoG, GRID (Goodford (1985) J. Med. Chem., 28, pp. 849-857; Oxford University, Oxford, UK; MCSS (Miranker *et al.* (1991) Proteins: Structure, Function and Genetics, 11, pp. 29-34; Molecular Simulations, San Diego, CA); AUTODOCK (Goodsell *et al.*, (1990) Proteins: Structure, Function, and Genetics, 8, pp. 195-202; Scripps Research Institute, La Jolla, Calif.); and DOCK (Kuntz *et al.* (1982) J. Mol. Biol., 161:269-288; University of California, San Francisco, Calif.)

[44] Once suitable chemical entities or fragments have been selected, they can be assembled into a single compound or complex. Assembly may be preceded by visual inspection of the relationship of the fragments to each other on the three-dimensional image displayed on a computer screen in relation to the structure coordinates. Useful programs to aid one of skill in the art in connecting the individual chemical entities or fragments include: CAVEAT (Bartlett *et al.* (1989) In Molecular Recognition in Chemical and Biological Problems", Special Pub., Royal Chem. Soc., 78, pp. 182-196; University of California, Berkeley, Calif.); 3D Database systems such as MACCS-3D (MDL Information Systems, San Leandro, Calif); and HOOK (available from Molecular Simulations, San Diego, CA).

[45] Other molecular modeling techniques may also be employed in accordance with this invention. See, e.g., N. C. Cohen et al., "Molecular Modeling Software and Methods for Medicinal Chemistry, J. Med. Chem., 33, pp. 883-894 (1990). See also, M. A. Navia et al., "The Use of Structural Information in Drug Design", Current Opinions in Structural Biology, 2, pp. 202-210 (1992).

[46] Once the binding entity has been optimally selected or designed, as described above, substitutions may then be made in some of its atoms or side groups in order to improve or modify its binding properties. Generally, initial substitutions are conservative, i.e., the replacement group will have approximately the same size, shape, hydrophobicity and charge as the original group. It should, of course, be understood that components known in the art to alter conformation should be avoided. Such substituted chemical compounds may then be analyzed for efficiency of fit by the same computer methods described above.

[47] Another approach made possible and enabled by this invention, is the computational screening of small molecule databases. In this screening, the quality of fit of such entities to the binding site may be judged either by shape complementarity or by estimated interaction energy. Generally the tighter the fit, the lower the steric hindrances, and the greater the attractive forces, the more potent the potential modulator since these properties are consistent with a tighter binding constant. Furthermore, the more specificity in the design of a potential drug the more likely that the drug will not interact as well with other proteins. This will minimize potential side effects due to unwanted interactions with other proteins.

[48] Compounds of interest can be systematically modified by computer modeling programs until one or more promising potential analogs are identified. In addition systematic modification of selected analogs can then be systematically modified by computer modeling programs until one or more potential analogs are identified. Alternatively a potential modulator could be obtained by initially screening a random peptide library, for example one produced by recombinant bacteriophage. A peptide selected in this manner would then be systematically modified by computer modeling programs as described above, and then treated analogously to a structural analog.

[49] Once a potential modulator/inhibitor is identified it can be either selected from a library of chemicals as are commercially available from most large chemical companies including Merck, GlaxoWelcome, Bristol Meyers Squib, Monsanto/Searle, Eli Lilly, Novartis and Pharmacia UpJohn, or alternatively the potential modulator may be synthesized *de novo*. The *de novo* synthesis of one or even a relatively small group of specific compounds is reasonable in the art of drug design.

[50] The success of both database and *de novo* methods in identifying compounds with activities similar to the compound of interest depends on the identification of the functionally

relevant portion of the compound of interest. For drugs, the functionally relevant portion may be referred to as a pharmacophore, *i.e.* an arrangement of structural features and functional groups important for biological activity. Not all identified compounds having the desired pharmacophore will act as a modulator of inflammation. The actual activity can be finally determined only by measuring the activity of the compound in relevant biological assays. However, the methods of the invention are extremely valuable because they can be used to greatly reduce the number of compounds that must be tested to identify an actual inhibitor.

[51] In order to determine the biological activity of a candidate pharmacophore it is preferable to measure biological activity at several concentrations of candidate compound. The activity at a given concentration of candidate compound can be tested in a number of ways.

[52] For example, an HLA molecule can be attached to a solid support. Methods for placing proteins on a solid support are well known in the art and include such steps as linking biotin to the protein, and linking avidin to the solid support. The solid support can be washed to remove unreacted species. A solution of a labeled candidate agent can be contacted with the solid support. The solid support is washed again to remove the potential modulator not bound to the support. The amount of labeled potential modulator remaining with the solid support and thereby bound to the protein can be determined. Alternatively, or in addition, the dissociation constant between the labeled candidate agent and the protein can be determined.

[53] Crystals of the binding complex of the present invention can be grown by a number of techniques including batch crystallization, vapor diffusion (either by sitting drop or hanging drop) and by microdialysis. Seeding of the crystals in some instances is required to obtain X-ray quality crystals. Standard micro and/or macro seeding of crystals may therefore be used. The crystals may be shrunk by transfer into solutions of different composition, *e.g.* by the addition of metal ions such as Mn^{2+}, Pb^{2+}, *etc.* Crystals may also be generated that include cofactors, substrates, candidate inhibitors, and the like, that interact with the protein, *e.g.* by cocrystallization of soaking protein crystals in a solution comprising an inhibitor or other agent.

[54] Alternative methods may also be used. For example, crystals can be characterized by using X-rays produced in a conventional source (such as a sealed tube or a rotating anode) or using a synchrotron source. Methods of characterization include, but are not limited to, precision photography, oscillation photography and diffractometer data collection. Selenium-methionine may be used as described in the examples provided herein, or alternatively a heavy metal derivative data set (e.g., using PCMB) may be used in place of the selenium-methionine derivatization.

[55] Electron density maps may be built from crystals using phase information from multiple isomorphous heavy-atom derivatives, molecular replacement or selenomethionine incorporated multiwavelength anomalous disperson technique. Model building is facilitated by the use of sequence markers, especially selenomethionine residues. Anomalous difference Fourier maps may be calculated with data from selenomethionine-substituted HLA-DQ2/ GLUTEN EPITOPE and with experimental multiple isomorphous replacement with anomalous scattering (MIRAS) phases (Hemming and Edwards (2000) J. Biol. Chem. **275**:2288). Maps are improved by phase combination, where MIRAS phases are combined by the program SIGMAA (Jones *et al.*, *supra.*) Phase combination may be followed by solvent flattening with DM (Carson (1997) Methods Enzymol. **277**:493). Improved maps may be obtained by combination of the MIRAS phases with improved phases from combined polyalanine and atomic models in an iterative process. The model can be refined by classical positional and B-factor minimization, and with manual rebuilding.

[56] HLA-DQ2/peptide complex structure models and databases of structure information are provided. The structural models find use in determining the structure of related and/or analogous peptide complexes. In some cases, modeling will be based on the provided structure. In other embodiments, modeling will utilize the provided structure in combination with features present in homologous and/or related structures, where relationship may be defined by protein sequence similarity, or structural similarity, e.g. in the presence of specific features as described above.

[57] The structure model may be implemented in hardware or software, or a combination of both. For most purposes, in order to use the structure coordinates generated for the structure, it is necessary to convert them into a three-dimensional shape. This is achieved through the use of free or commercially available software that is capable of generating three-dimensional graphical representations of molecules or portions thereof from a set of structure coordinates.

[58] In one embodiment of the invention, a machine-readable storage medium is provided, the medium comprising a data storage material encoded with machine readable data which, when using a machine programmed with instructions for using said data, is capable of displaying a graphical three-dimensional representation of any of the structures of this invention that have been described above. Specifically, the computer-readable storage medium is capable of displaying a graphical three-dimensional representation of the HLA-DQ2/peptide complex.

[59] Thus, in accordance with the present invention, data providing structural coordinates, alone or in combination with software capable of displaying the resulting three dimensional structure of the complex, portions thereof, and their structurally similar analogs, is stored in a machine-readable storage medium. Such data may be used for a variety of

purposes, such as drug discovery, analysis of interactions between cellular components during translation, modeling of vaccines, and the like.

[60] Preferably, the invention is implemented in computer programs executing on programmable computers, comprising a processor, a data storage system (including volatile and non-volatile memory and/or storage elements), at least one input device, and at least one output device. Program code is applied to input data to perform the functions described above and generate output information. The output information is applied to one or more output devices, in known fashion. The computer may be, for example, a personal computer, microcomputer, or workstation of conventional design.

[61] Each program is preferably implemented in a high level procedural or object oriented programming language to communicate with a computer system. However, the programs can be implemented in assembly or machine language, if desired. In any case, the language may be a compiled or interpreted language.

[62] Each such computer program is preferably stored on a storage media or device (e.g., ROM or magnetic diskette) readable by a general or special purpose programmable computer, for configuring and operating the computer when the storage media or device is read by the computer to perform the procedures described herein. The system may also be considered to be implemented as a computer-readable storage medium, configured with a computer program, where the storage medium so configured causes a computer to operate in a specific and predefined manner to perform the functions described herein.

[63] The HLA-binding peptide inhibitors are incorporated into a variety of formulations for therapeutic administration. In one aspect, the agents are formulated into pharmaceutical compositions by combination with appropriate, pharmaceutically acceptable carriers or diluents, and may be formulated into preparations in solid, semi-solid, liquid or gaseous forms, such as tablets, capsules, powders, granules, ointments, solutions, suppositories, injections, inhalants, gels, microspheres, and aerosols. As such, administration can be achieved in various ways, usually by oral administration. The HLA-binding peptide inhibitors may be systemic after administration or may be localized by virtue of the formulation, or by the use of an implant that acts to retain the active dose at the site of implantation.

[64] In pharmaceutical dosage forms, the HLA-binding peptide inhibitors may be administered in the form of their pharmaceutically acceptable salts, or they may also be used alone or in appropriate association, as well as in combination with other pharmaceutically active compounds. The agents may be combined, as previously described, to provide a cocktail of activities. The following methods and excipients are merely exemplary and are in no way limiting.

[65] For oral preparations, the agents can be used alone or in combination with appropriate additives to make tablets, powders, granules or capsules, for example, with conventional additives, such as lactose, mannitol, corn starch or potato starch; with binders, such as crystalline cellulose, cellulose derivatives, acacia, corn starch or gelatins; with disintegrators, such as corn starch, potato starch or sodium carboxymethylcellulose; with lubricants, such as talc or magnesium stearate; and if desired, with diluents, buffering agents, moistening agents, preservatives and flavoring agents.

[66] In one embodiment of the invention, the oral formulations comprise enteric coatings, so that the active agent is delivered to the intestinal tract. Enteric formulations are often used to protect an active ingredient from the strongly acid contents of the stomach. Such formulations are created by coating a solid dosage form with a film of a polymer that is insoluble in acid environments, and soluble in basic environments. Exemplary films are cellulose acetate phthalate, polyvinyl acetate phthalate, hydroxypropyl methylcellulose phthalate and hydroxypropyl methylcellulose acetate succinate, methacrylate copolymers, and cellulose acetate phthalate.

[67] Other enteric formulation comprise engineered polymer microspheres made of biologically erodable polymers, which display strong adhesive interactions with gastrointestinal mucus and cellular linings, can traverse both the mucosal absorptive epithelium and the follicle-associated epithelium covering the lymphoid tissue of Peyer's patches. The polymers maintain contact with intestinal epithelium for extended periods of time and actually penetrate it, through and between cells. See, for example, Mathiowitz *et al.* (1997) Nature 386 (6623): 410-414. Drug delivery systems can also utilize a core of superporous hydrogels (SPH) and SPH composite (SPHC), as described by Dorkoosh *et al.* (2001) J Control Release 71(3):307-18.

[68] Formulations are typically provided in a unit dosage form, where the term "unit dosage form," refers to physically discrete units suitable as unitary dosages for human subjects, each unit containing a predetermined quantity of glutenase calculated in an amount sufficient to produce the desired effect in association with a pharmaceutically acceptable diluent, carrier or vehicle. The specifications for the unit dosage forms of the present invention depend on the particular complex employed and the effect to be achieved, and the pharmacodynamics associated with each complex in the host.

[69] The pharmaceutically acceptable excipients, such as vehicles, adjuvants, carriers or diluents, are readily available to the public. Moreover, pharmaceutically acceptable auxiliary substances, such as pH adjusting and buffering agents, tonicity adjusting agents, stabilizers, wetting agents and the like, are readily available to the public.

METHODS OF TREATMENT

[70] The subject methods are used to treat individuals suffering from Celiac Sprue and/or dermatitis herpetiformis, by administering an effective dose through a pharmaceutical formulation. Diagnosis of suitable patients may utilize a variety of criteria known to those of skill in the art. A quantitative increase in antibodies specific for gliadin, and/or tissue transglutaminase is indicative of the disease. Family histories and the presence of the HLA alleles HLA-DQ2 [DQ(a1*05, b1*02)] and/or DQ8 [DQ(a1*03, b1*0302)] are indicative of a susceptibility to the disease. Specific peptide analogs may be administered therapeutically to decrease inflammation, and/or to induce antigen-specific tolerance to treat autoimmunity. Methods for the delivery of peptides that are altered from a native peptide are known in the art. Alteration of native peptides with selective changes of crucial residues can induce unresponsiveness or change the responsiveness of antigen-specific autoreactive T cells.

[71] The therapeutic effect may be measured in terms of clinical outcome, or may rely on immunological or biochemical tests. Suppression of the deleterious T-cell activity can be measured by enumeration of reactive Th1 cells, by quantitating the release of cytokines at the sites of lesions, or using other assays for the presence of autoimmune T cells known in the art. Alternatively, one may look for a reduction in symptoms of a disease.

[72] Various methods for administration may be employed. The dosage of the therapeutic formulation will vary widely, depending upon the nature of the disease, the frequency of administration, the manner of administration, the clearance of the agent from the host, and the like. Such treatment could either be before meals or on a once-a-day basis or on a once-a-week basis, depending on the half-life of the inhibitor. A typical dose is at least about 1 μg, usually at least about 10 μg, more usually at least about 0.1 mg, and not more than about 10 mg, usually not more than about 1 mg. Enteric coating of these peptides may also enhance their lifetimes in the gut, thereby permitting delivery to the proximal and distal small intestinal tissue. Treatment of other autoimmune disorders such as Type I diabetes with such ligands may involve oral, intravenous or intramuscular administration. The initial dose may be larger, followed by smaller maintenance doses. The dose may be administered as infrequently as weekly or biweekly, or more often fractionated into smaller doses and administered daily, with meals, semi-weekly, *etc.* to maintain an effective dosage level.

[73] The HLA-binding peptide inhibitors of the invention may be administered in the treatment of Type 1 diabetes (IDDM). IDDM and celiac disease are both immunologic disorders where specific HLA alleles are associated with disease risk. Transglutaminase autoantibodies can be found in some patients with IDDM. The prevalence of transglutaminase autoantibodies is higher in diabetic patients with HLA DQ2 or DQ8.

[74] Human type I or insulin-dependent diabetes mellitus (IDDM) is characterized by autoimmune destruction of the β cells in the pancreatic islets of Langerhans. The depletion of β cells results in an inability to regulate levels of glucose in the blood. Overt diabetes occurs when the level of glucose in the blood rises above a specific level, usually about 250 mg/dl. In humans a long presymptomatic period precedes the onset of diabetes. During this period there is a gradual loss of pancreatic beta cell function. IDDM is currently treated by monitoring blood glucose levels to guide injection, or pump-based delivery, of recombinant insulin. Diet and exercise regimens contribute to achieving adequate blood glucose control. The inhibitors of the invention may be administered alone, or in combination with other therapies. The route of administration may be oral, as described for treatment of Celiac Sprue, or may be injected, *e.g.* i.v., i.m., *etc.* Administration may be performed during the pre-symptomatic phase, or in overt diabetes.

EXPERIMENTAL

Example

[75] It has long been known that the principal toxic components of wheat gluten are a family of closely related Pro-Gln rich proteins called gliadins. Recent reports have suggested that peptides from a short segment of α-gliadin appear to account for most of the gluten-specific recognition by CD4+ T cells from Celiac Sprue patients. These peptides are substrates of tissue transglutaminase (tTGase), the primary auto-antigen in Celiac Sprue, and the products of this enzymatic reaction bind to the class II HLA DQ2 molecule. This "immunodominant" region of α-gliadin is part of an unusually long proteolytic product generated by the digestive process that: (a) is exceptionally resistant to further breakdown by gastric, pancreatic and intestinal brush border proteases; (b) is the highest specificity substrate of human tissue transglutaminase (tTGase) discovered to date; (c) contains at least six overlapping copies of epitopes known to be recognized by patient derived T cells; (d) stimulates representative T cell clones that recognize these epitopes with sub-micromolar efficacy; and (e) has homologs in proteins from all toxic foodgrains but no homologs in non-toxic foodgrain proteins.

[76] *Identification of stable peptides from gastric protease, pancreatic protease and brush border membrane peptidase catalyzed digestion of recombinant α2-gliadin:* α2-gliadin, a representative α-gliadin (Arentz-Hansen et al. (2000) Gut **46**:46), was expressed in recombinant form and purified from E. coli. The α2-gliadin gene was cloned in pET28a plasmid (Novagen) and transformed into the expression host BL21(DE3) (Novagen). The transformed cells were grown in 1-liter cultures of LB media containing 50 μg/ml of

kanamycin at 37 °C until the OD600 0.6-1 was achieved. The expression of α2-gliadin protein was induced with the addition of 0.4 mM isopropyl α-D-thiogalactoside (Sigma) and the cultures were further incubated at 37 °C for 20 hours. The cells expressing the recombinant α2-gliadin were centrifuged at 3600 rpm for 30 minutes. The pellet was resuspended in 15 ml of disruption buffer (200 mM sodium phosphate; 200 mM NaCl; 2.5 mM DTT; 1.5 mM benzamidine; 2.5 mM EDTA; 2 mg/L pepstatin; 2 mg/L leupeptin; 30% v/v glycerol) and lysed by sonication (1 minute; output control set to 6). After centrifugation at 45000g for 45 min, the supernatant was discarded and the pellet containing gliadin protein was resuspended in 50 ml of 7M urea in 50 mM Tris (pH = 8.0). The suspension was again centrifuged at 45000g for 45 min and the supernatant was harvested for purification. The supernatant containing α2-gliadin was incubated with 1 ml of nickel-nitrilotriacetic acid resin (Ni-NTA; Qiagen) overnight and then batch-loaded on a column with 2 ml of Ni-NTA. The column was washed with 7M urea in 50 mM Tris (pH = 8.0) and α2-gliadin was eluted with 200 mM imidazole, 7 M urea in 50 mM Tris (pH = 4.5). The fractions containing α2-gliadin were pooled into a final concentration of 70% ethanol solution and two volumes of 1.5M NaCl were added to precipitate the protein. The solution was incubated at 4 °C overnight and the final precipitate was collected by centrifugation at 45000 g for 30 min, rinsed in water, and re-centrifuged to remove the urea. The final purification step of the α-2 gliadin was developed with reverse-phase HPLC. The Ni-NTA purified protein fractions were pooled in 7 M urea buffer and injected to a Vydac (Hesperia, CA) polystyrene reverse-phase column (i.d. 4.6 mm × 25 cm) with the starting solvent (30% of solvent B: 1:1 HPLC-grade acetonitrile/isopropanol : 0.1% TFA). Solvent A was an aqueous solution with 0.1% TFA. The separation gradient extended from 30–100% of solvent B over 120 min at a flow rate of 0.8 ml/min.

Table 2, Amount of Peptides Digested after 15 hours

	33-mer	Control A	Control B
H1P0	<20%	>90%	>90%
H2P0	<20%	>61%	>85%
H3P0	<20%	>87%	>95%
H4P0	<20%	>96%	>95%
H5P0	<20%	>96%	>95%

[77] The purity of the recombinant gliadin was >95%, which allowed for facile identification and assignment of proteolytic products by LC-MS/MS/UV. Although many previous studies utilized pepsin/trypsin treated gliadins, it was found that, among gastric and pancreatic proteases, chymotrypsin played a major role in the breakdown of α2-gliadin,

resulting in many small peptides from the C-terminal half of the protein and a few longer (>8 residues) peptides from the N-terminal half, the most noteworthy being a relatively large fragment, the 33-mer LQLQPFPQPQLPYPQPQLPYPQPQLPYPQPQPF (residues 57-89). This peptide was of particular interest for two reasons: (a) Whereas most other relatively stable proteolytic fragments were cleaved to smaller fragments when the reaction times were extended, the 33-mer peptide remained intact despite prolonged exposure to proteases; and (b) three distinct patient-specific T cell epitopes identified previously are present in this peptide, namely, PFPQPQLPY, PQPQLPYPQ (3 copies), and PYPQPQLPY (2 copies).

[78] To establish the physiological relevance of this peptide, composite gastric/pancreatic enzymatic digestion of α2 gliadin was then examined. As expected, enzymatic digestion with pepsin (1:100 w/w ratio), trypsin (1:100), chymotrypsin (1:100), elastase (1:500) and carboxypeptidase (1:100) was quite efficient, leaving behind only a few peptides longer than 9 residues (the minimum size for a peptide to show class II MHC mediated antigenicity). In addition to the above-mentioned 33-mer, the peptide WQIPEQSR was also identified, and was used as a control in many of the following studies.

[79] The small intestinal brush-border membrane (BBM) enzymes are known to be vital for breaking down any remaining peptides from gastric/pancreatic digestion into amino acids, dipeptides or tripeptides for nutritional uptake. Therefore a comprehensive analysis of gliadin metabolism also required investigations into BBM processing of gliadin peptides of reasonable length derived from gastric and pancreatic protease treatment. BBM fractions were prepared from rat small intestinal mucosa. The specific activities of known BBM peptidases were verified to be within the previously reported range. Whereas the half-life of disappearance of WQIPEQSR was ~60 min in the presence of 12 ng/μl BBM protein, the half-life of LQLQPFPQPQLPYPQPQLPYPQPQLPYPQPQPF digestion was >20 h. Therefore, the latter peptide remains intact throughout the digestive process in the stomach and upper small intestine, and is poised to act as a potential antigen for T cell proliferation and intestinal toxicity in genetically susceptible individuals.

Example 2

The 33-mer gliadin peptide is an excellent substrate for tTGase, and the resulting product is a highly potent activator of patient-derived T cells: A number of recent studies have demonstrated that regiospecific deamidation of immunogenic gliadin peptides by tTGase increases their affinity for HLA-DQ2 as well as the potency with which they activate patient-derived gluten-specific T cells. It has been shown the specificity of tTGase for certain short antigenic peptides derived from gliadin is higher than its specificity toward its physiological target site in fibronectin, for example, the specificity of tTGase for the α-gliadin

derived peptide PQPQLPYPQPQLPY is 5-fold higher than that for its target peptide sequence in fibrinogen, its natural substrate. The kinetics and regiospecificity of deamidation of the 33-mer α-gliadin peptide identified as above were therefore measured. The k_{cat}/K_M was higher than that reported for any peptide studied thus far: kcat / KM = 440 min-1mM-1 for LQLQPFPQPQLPYPQPQLPYPQPQLPYPQPQPF compared to kcat / KM = 82 min-1mM-1 for PQPQLPY and kcat / KM = 350 min-1mM-1 for PQPQLPYPQPQLPY.

[80] Moreover, LC-MS-MS analysis revealed that LQLQPFPQPQLPYPQPQLPYPQPQLPYPQPQPF was selectively deamidated by tTGase at the underlined residues. Since tTGase activity is associated with the brush border membrane of intestinal enterocytes, it is likely that dietary uptake of even small quantities of wheat gluten will lead to the build-up of sufficient quantities of this 33-mer gliadin peptide in the intestinal lumen so as to be recognized and processed by tTGase.

[81] *Structural characteristics of the 33-mer gliadin peptide and its naturally occurring homologs:* Sequence alignment searches using BLASTP in all non-redundant protein databases revealed several homologs (E-value < 0.001) of the 33-mer gliadin peptide. Interestingly, foodgrain derived homologs were only found in gliadins (from wheat), hordeins (from barley) and secalins (from rye), all of which have been proven to be toxic to Celiac patients (Figure 7). Nontoxic foodgrain proteins, such as avenins (in oats), rice and maize, do not contain homologous sequences to the 33-mer gliadin. In contrast, a BLASTP search with the entire α2-gliadin sequence identified foodgrain protein homologs from both toxic and nontoxic proteins. Based on available information regarding the substrate specificities of gastric, pancreatic and BBM proteases and peptidases, it is predicted that, although most gluten homologs to the 33-mer gliadin peptide contained multiple proteolytic sites and are therefore unlikely to be completely stable toward digestion, several sequences from wheat, rye and barley are expected to be comparably resistant to gastric and intestinal proteolysis. The stable peptide homologs to the 33-mer α2-gliadin peptide are QPQPFPPQLPYPQTQPFPPQQPYPQPQPQYPQPQ (from α1- and α6-gliadins); QQQPFPQQPIPQQPQPYPQQPQPYPQQPFPPQQPF (from B1 hordein); QPFPQPQQTFPQQPQLPFPQQPQQPFPQPQ (from γ-gliadin); VQWPQQQPVPQPHQPF (from γ-gliadin), VQGQGIIQPQQPAQ (from γ-gliadin), FLQPQQPFPQQPQQPYPQQPQQPFPQ (from γ-gliadin), FSQPQQQFPQPQQPQQSFPQQQPP (from γ-gliadin), QPFPQPQQPTPIQPQQPFPQRPQQPFPQPQ (from ω-secalin). These stable peptides are all located at the N-terminal region of the corresponding proteins. The presence of proline residues after otherwise cleavable residues in these peptides would contribute to their proteolytic stability.

[82] The unique primary sequence of the 33-mer gliadin peptide also had homologs among a few non-gluten proteins. Among the strongest homologs were internal sequences from pertactin (a highly immunogenic protein from *Bordetella pertussis*) and a mammalian inositol-polyphosphate 5-phosphatase of unknown function. In both cases available information suggested that the homology could have biologically relevance. For example, the region of pertactin that is homologous to the 33-mer gliadin peptide is known to be part of the immunodominant segment of the protein. In the case of the homologous phosphatase, the corresponding peptide region of the phosphatase is known to be responsible for vesicular trafficking of the phosphatase to the cytoplasmic Golgi. In analogy with the current picture of how gliadin peptides are presented to HLA-DQ2 via a tTGase mediated pathway, these Pro-Gln-rich segments of both pertactin and the phosphatase are likely to be good tTGase substrates.

Example 3

[83] *X-ray Crystallographic Analysis of soluble HLA-DQ2.* The soluble extracellular domains of the α- and β-chains of HLA-DQ2 were co-expressed in insect cells using a baculovirus expression system (pAcAB3 vector, BD Biosciences). The DNA sequence of the engineered α- and β-chains is provided in SEQ ID NO:1 and SEQ ID NO:2. The β-chain is fused to a sequence encoding the epitope QLQPFPQPELPY at its N-terminal end, and to a biotin recognition sequence at its C-terminal end. Both subunits are also fused to complementary leucine zipper sequences at their C-terminal ends. Since a Factor Xa proteolysis site is engineered between the leucine zipper sequences and the DQ2 subunits, prior to crystallization the leucine zippers were removed from DQ2 by Factor Xa digestion.

[84] Initial purification of the DQ2 heterodimer from the culture medium was performed on an immunoaffinity column containing an anti-DQ2 monoclonal antibody (2.12.E11) bound to a Protein A Sepharose CL-4B column. Subsequently DQ2 was treated with Factor Xa, and purified from the digestion mixture by anion-exchange chromatography followed by size-exclusion chromatography, and concentrated to 4 mg/ml in 25 mM Tris-HCl, pH 8.0. Crystals of the DQ2-epitope complex were obtained using the hanging drop method. Typically, 2 μL of protein solution (2~4 mg/ml DQ2, 25 mM Tris-HCl, pH 8.0) and 2 μL of precipitant buffer (200 mM ammonium acetate, 40 mM ammonium sulfate, 4% ethylene glycol, 22~26% PEG 3350) were combined in a single drop hanging over 1 mL of precipitant buffer at room temperature. Small crystals appeared within three days and grew to full size in two weeks.

[85] For data collection, crystals were transferred to a cryoprotectant solution (mother liquor containing 28% ethylene glycol) for 2 hours, and then flash cooled at 100K in liquid nitrogen. X-ray diffraction data were collected from a single crystal to 2.22 Å resolution at

beamline 11-1 of the Stanford Synchrotron Radiation Laboratory using a Quantum 315 CCD detector. Oscillation images were processed with DENZO and data reduction was carried out with SCALEPACK.

[86] The structure of DQ2-epitope complex was determined by molecular replacement using the program AMoRe in the CCP4 suite of programs. The 2.4 Å resolution structure of insulin peptide-HLA-DQ8 complex (RCSB accession code: 1JK8) minus the insulin peptide and solvent molecules was used as the search model. After initial refinement with the maximum likelihood function of program REFMAC, iterative cycles of refinement including simulated annealing, temperature factor refinement, and energy minimization were made with the program CNS. Model building and correction were performed using σ_A-weighted F_o-F_c and $2F_o$-F_c electron density maps with the program O. The current model has *R*-factor of 0.2209 with a R_{free} of 0.2793 at 2.22 Å resolution. Analysis of the Ramachandran plot generated using the program PROCHECK shows that 91.2 % of residues are in most favored regions, 7.9 % are in additional allowed regions, 0.5 % are in generously allowed regions, and 0.5 % are in disallowed regions.

[87] There are two molecules of DQ2-epitope in the asymmetric unit. In the first complex, α-chain of DQ2, β-chain of DQ2, and the alpha-I epitope peptide (sequence QLQPFPQPELPY) are designated A, B, and C respectively. In the second complex, α-chain, β-chain, and epitope peptide are designated D, E, and F respectively. The model includes 354 water molecules (name: HOH) and 4 ethylene glycol molecules (name: EDO).

[88] Thr-106—His-112 region in chain B and Arg-105—His-112 region in chain E are disordered and thus absent from the model. Superposition of the DQ8 structure suggests that these regions form an extended loop. Side chain conformation of the following residues are undefined due to weak electron density in the corresponding region and therefore only their backbone atoms are included in the model: Asp-135 (in chain B), Leu-2, Gln-3, Tyr-12 (in chain C), Asp-135, Gln-136 (in chain E), and Leu-2, Gln-3 (in chain F).

[89] *Structure-based design of DQ2 binding peptide inhibitors.* The crystal structure of the DQ2-epitope complex reveals precisely which atoms in the peptide QLQPFPQPELPYP point outward (by inference into the T cell receptor binding pocket). Substitutions at these atoms can yield altered peptide ligands that retain the ability to bind tightly to DQ2 but are no longer able to allow docking of the DQ2-peptide complex into disease specific T cell receptors.

[90] The coordinate of the structure are as follows:

Coordinates

```
REMARK peptide link removed (applied DPEP): from B    105  to B    113
REMARK peptide link removed (applied DPEP): from E    104  to E    113
REMARK disulphide added: from A    107  to A    163
REMARK disulphide added: from B    15   to B    79
REMARK disulphide added: from B    117  to B    173
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REMARK disulphide added: from D    107  to D    163
REMARK disulphide added: from E    15   to E    79
REMARK disulphide added: from E    117  to E    173
REMARK DATE:25-Apr-03  13:00:06       created by user: kim
REMARK VERSION:1.0
ATOM      1  CB  VAL A   2      31.060   3.851   4.095  1.00 39.43      A
ATOM      2  CG1 VAL A   2      30.078   2.835   3.531  1.00 40.06      A
ATOM      3  CG2 VAL A   2      30.370   5.185   4.344  1.00 39.97      A
ATOM      4  C   VAL A   2      30.653   3.406   6.542  1.00 36.80      A
ATOM      5  O   VAL A   2      29.644   2.702   6.527  1.00 38.25      A
ATOM      6  N   VAL A   2      32.189   1.926   5.235  1.00 36.80      A
ATOM      7  CA  VAL A   2      31.684   3.321   5.414  1.00 37.95      A
ATOM      8  N   ALA A   3      30.910   4.267   7.523  1.00 34.99      A
ATOM      9  CA  ALA A   3      30.003   4.416   8.658  1.00 32.94      A
ATOM     10  CB  ALA A   3      30.325   3.368   9.721  1.00 33.34      A
ATOM     11  C   ALA A   3      30.094   5.805   9.263  1.00 30.81      A
ATOM     12  O   ALA A   3      30.980   6.583   8.914  1.00 29.57      A
ATOM     13  N   ASP A   4      29.172   6.115  10.170  1.00 28.70      A
ATOM     14  CA  ASP A   4      29.173   7.416  10.822  1.00 26.95      A
ATOM     15  CB  ASP A   4      27.812   7.722  11.456  1.00 28.65      A
ATOM     16  CG  ASP A   4      26.687   7.845  10.431  1.00 31.67      A
ATOM     17  OD1 ASP A   4      26.904   8.417   9.339  1.00 33.31      A
ATOM     18  OD2 ASP A   4      25.568   7.381  10.735  1.00 33.31      A
ATOM     19  C   ASP A   4      30.254   7.432  11.898  1.00 26.51      A
ATOM     20  O   ASP A   4      30.857   8.469  12.170  1.00 25.25      A
ATOM     21  N   HIS A   5      30.493   6.277  12.515  1.00 26.22      A
ATOM     22  CA  HIS A   5      31.527   6.164  13.544  1.00 26.52      A
ATOM     23  CB  HIS A   5      30.939   6.339  14.950  1.00 25.34      A
ATOM     24  CG  HIS A   5      30.240   7.647  15.156  1.00 28.69      A
ATOM     25  CD2 HIS A   5      30.716   8.870  15.492  1.00 29.15      A
ATOM     26  ND1 HIS A   5      28.881   7.801  14.979  1.00 28.23      A
ATOM     27  CE1 HIS A   5      28.550   9.062  15.198  1.00 29.92      A
ATOM     28  NE2 HIS A   5      29.645   9.732  15.511  1.00 29.84      A
ATOM     29  C   HIS A   5      32.246   4.826  13.465  1.00 25.79      A
ATOM     30  O   HIS A   5      31.630   3.785  13.227  1.00 25.68      A
ATOM     31  N   VAL A   6      33.559   4.866  13.659  1.00 24.52      A
ATOM     32  CA  VAL A   6      34.385   3.667  13.628  1.00 23.27      A
ATOM     33  CB  VAL A   6      35.311   3.657  12.407  1.00 25.22      A
ATOM     34  CG1 VAL A   6      36.187   2.414  12.440  1.00 24.31      A
ATOM     35  CG2 VAL A   6      34.489   3.708  11.127  1.00 27.15      A
ATOM     36  C   VAL A   6      35.256   3.633  14.876  1.00 22.15      A
ATOM     37  O   VAL A   6      35.937   4.606  15.185  1.00 21.49      A
ATOM     38  N   ALA A   7      35.239   2.513  15.586  1.00 19.90      A
ATOM     39  CA  ALA A   7      36.038   2.382  16.799  1.00 19.70      A
ATOM     40  CB  ALA A   7      35.132   2.394  18.034  1.00 14.59      A
ATOM     41  C   ALA A   7      36.867   1.111  16.791  1.00 18.62      A
ATOM     42  O   ALA A   7      36.548   0.153  16.088  1.00 20.78      A
ATOM     43  N   SER A   8      37.947   1.120  17.560  1.00 16.95      A
ATOM     44  CA  SER A   8      38.807  -0.048  17.700  1.00 18.62      A
ATOM     45  CB  SER A   8      40.211   0.215  17.153  1.00 17.69      A
ATOM     46  OG  SER A   8      40.209   0.271  15.738  1.00 19.81      A
ATOM     47  C   SER A   8      38.868  -0.310  19.199  1.00 18.76      A
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ATOM     49  N   TYR A   9      38.070  -1.268  19.645  1.00 19.38      A
ATOM     50  CA  TYR A   9      38.038  -1.608  21.048  1.00 19.44      A
ATOM     51  CB  TYR A   9      36.628  -1.980  21.471  1.00 19.18      A
ATOM     52  CG  TYR A   9      35.714  -0.785  21.375  1.00 18.65      A
ATOM     53  CD1 TYR A   9      36.073   0.435  21.962  1.00 16.57      A
ATOM     54  CE1 TYR A   9      35.237   1.537  21.897  1.00 17.39      A
ATOM     55  CD2 TYR A   9      34.493  -0.865  20.716  1.00 17.15      A
ATOM     56  CE2 TYR A   9      33.641   0.235  20.647  1.00 16.82      A
ATOM     57  CZ  TYR A   9      34.020   1.431  21.243  1.00 18.07      A
ATOM     58  OH  TYR A   9      33.169   2.509  21.210  1.00 19.77      A
ATOM     59  C   TYR A   9      38.993  -2.751  21.106  1.00 20.21      A
ATOM     60  O   TYR A   9      38.652  -3.911  21.344  1.00 15.05      A
ATOM     61  N   GLY A  10      40.225  -2.357  20.831  1.00 21.69      A
ATOM     62  CA  GLY A  10      41.311  -3.275  20.808  1.00 22.54      A
ATOM     63  C   GLY A  10      42.276  -3.080  19.655  1.00 21.74      A
ATOM     64  O   GLY A  10      42.248  -3.863  18.713  1.00 22.02      A
ATOM     65  N   VAL A  11      43.083  -2.023  19.674  1.00 18.91      A
ATOM     66  CA  VAL A  11      44.119  -1.949  18.651  1.00 17.39      A
ATOM     67  CB  VAL A  11      44.554  -0.506  18.277  1.00 18.75      A
ATOM     68  CG1 VAL A  11      45.845  -0.558  17.455  1.00 16.18      A
ATOM     69  CG2 VAL A  11      43.481   0.165  17.432  1.00 15.25      A
```

ATOM	70	C	VAL	A	11	45.228	-2.644	19.447	1.00	17.05	A
ATOM	71	O	VAL	A	11	45.679	-2.145	20.481	1.00	19.34	A
ATOM	72	N	ASN	A	12	45.616	-3.828	19.005	1.00	17.39	A
ATOM	73	CA	ASN	A	12	46.643	-4.597	19.693	1.00	17.18	A
ATOM	74	CB	ASN	A	12	46.113	-5.994	20.052	1.00	15.04	A
ATOM	75	CG	ASN	A	12	44.834	-5.947	20.882	1.00	15.96	A
ATOM	76	OD1	ASN	A	12	43.780	-5.490	20.417	1.00	18.20	A
ATOM	77	ND2	ASN	A	12	44.921	-6.420	22.114	1.00	10.46	A
ATOM	78	C	ASN	A	12	47.863	-4.739	18.797	1.00	18.90	A
ATOM	79	O	ASN	A	12	47.752	-5.162	17.641	1.00	18.80	A
ATOM	80	N	LEU	A	13	49.026	-4.403	19.343	1.00	18.60	A
ATOM	81	CA	LEU	A	13	50.264	-4.478	18.599	1.00	19.90	A
ATOM	82	CB	LEU	A	13	50.695	-3.064	18.217	1.00	23.26	A
ATOM	83	CG	LEU	A	13	52.077	-2.881	17.594	1.00	24.86	A
ATOM	84	CD1	LEU	A	13	52.085	-3.494	16.201	1.00	26.92	A
ATOM	85	CD2	LEU	A	13	52.417	-1.402	17.534	1.00	24.75	A
ATOM	86	C	LEU	A	13	51.391	-5.165	19.370	1.00	20.37	A
ATOM	87	O	LEU	A	13	51.559	-4.953	20.566	1.00	21.11	A
ATOM	88	N	TYR	A	14	52.145	-6.004	18.673	1.00	21.04	A
ATOM	89	CA	TYR	A	14	53.291	-6.691	19.255	1.00	24.07	A
ATOM	90	CB	TYR	A	14	52.909	-8.050	19.844	1.00	27.05	A
ATOM	91	CG	TYR	A	14	54.091	-8.729	20.489	1.00	29.27	A
ATOM	92	CD1	TYR	A	14	54.569	-8.304	21.723	1.00	30.07	A
ATOM	93	CE1	TYR	A	14	55.709	-8.867	22.285	1.00	31.38	A
ATOM	94	CD2	TYR	A	14	54.783	-9.744	19.830	1.00	31.63	A
ATOM	95	CE2	TYR	A	14	55.923	-10.314	20.383	1.00	30.29	A
ATOM	96	CZ	TYR	A	14	56.381	-9.868	21.609	1.00	31.37	A
ATOM	97	OH	TYR	A	14	57.515	-10.413	22.160	1.00	34.48	A
ATOM	98	C	TYR	A	14	54.291	-6.900	18.128	1.00	25.30	A
ATOM	99	O	TYR	A	14	53.907	-7.206	16.994	1.00	25.51	A
ATOM	100	N	GLN	A	15	55.571	-6.725	18.429	1.00	24.61	A
ATOM	101	CA	GLN	A	15	56.603	-6.891	17.414	1.00	25.19	A
ATOM	102	CB	GLN	A	15	56.932	-5.549	16.754	1.00	23.54	A
ATOM	103	CG	GLN	A	15	57.278	-4.443	17.738	1.00	23.98	A
ATOM	104	CD	GLN	A	15	57.567	-3.116	17.056	1.00	26.32	A
ATOM	105	OE1	GLN	A	15	57.575	-2.062	17.702	1.00	28.26	A
ATOM	106	NE2	GLN	A	15	57.810	-3.159	15.749	1.00	24.64	A
ATOM	107	C	GLN	A	15	57.848	-7.487	18.036	1.00	26.16	A
ATOM	108	O	GLN	A	15	58.134	-7.263	19.211	1.00	24.31	A
ATOM	109	N	SER	A	16	58.583	-8.252	17.236	1.00	28.72	A
ATOM	110	CA	SER	A	16	59.801	-8.912	17.698	1.00	30.37	A
ATOM	111	CB	SER	A	16	60.341	-9.830	16.603	1.00	28.35	A
ATOM	112	OG	SER	A	16	60.569	-9.100	15.407	1.00	31.43	A
ATOM	113	C	SER	A	16	60.883	-7.918	18.111	1.00	32.37	A
ATOM	114	O	SER	A	16	61.538	-8.104	19.134	1.00	33.91	A
ATOM	115	N	TYR	A	17	61.073	-6.863	17.325	1.00	32.49	A
ATOM	116	CA	TYR	A	17	62.096	-5.890	17.664	1.00	34.27	A
ATOM	117	CB	TYR	A	17	62.172	-4.788	16.620	1.00	35.41	A
ATOM	118	CG	TYR	A	17	63.371	-3.911	16.837	1.00	37.77	A
ATOM	119	CD1	TYR	A	17	64.646	-4.347	16.470	1.00	39.38	A
ATOM	120	CE1	TYR	A	17	65.769	-3.569	16.715	1.00	40.15	A
ATOM	121	CD2	TYR	A	17	63.247	-2.671	17.456	1.00	36.31	A
ATOM	122	CE2	TYR	A	17	64.360	-1.886	17.707	1.00	39.40	A
ATOM	123	CZ	TYR	A	17	65.621	-2.338	17.335	1.00	41.42	A
ATOM	124	OH	TYR	A	17	66.732	-1.562	17.580	1.00	43.02	A
ATOM	125	C	TYR	A	17	61.821	-5.270	19.027	1.00	34.43	A
ATOM	126	O	TYR	A	17	60.765	-4.682	19.248	1.00	35.58	A
ATOM	127	N	GLY	A	18	62.783	-5.390	19.935	1.00	34.98	A
ATOM	128	CA	GLY	A	18	62.609	-4.854	21.270	1.00	35.78	A
ATOM	129	C	GLY	A	18	62.730	-5.968	22.292	1.00	36.87	A
ATOM	130	O	GLY	A	18	63.761	-6.082	22.952	1.00	38.48	A
ATOM	131	N	PRO	A	19	61.692	-6.807	22.459	1.00	37.06	A
ATOM	132	CD	PRO	A	19	61.745	-7.967	23.368	1.00	35.58	A
ATOM	133	CA	PRO	A	19	60.409	-6.769	21.747	1.00	34.79	A
ATOM	134	CB	PRO	A	19	59.853	-8.166	21.981	1.00	35.91	A
ATOM	135	CG	PRO	A	19	60.300	-8.437	23.394	1.00	36.88	A
ATOM	136	C	PRO	A	19	59.531	-5.706	22.379	1.00	33.10	A
ATOM	137	O	PRO	A	19	59.844	-5.209	23.456	1.00	33.71	A
ATOM	138	N	SER	A	20	58.435	-5.349	21.722	1.00	31.83	A
ATOM	139	CA	SER	A	20	57.548	-4.341	22.290	1.00	30.25	A
ATOM	140	CB	SER	A	20	58.060	-2.932	21.965	1.00	29.00	A
ATOM	141	OG	SER	A	20	58.072	-2.689	20.567	1.00	32.27	A
ATOM	142	C	SER	A	20	56.108	-4.497	21.820	1.00	27.93	A
ATOM	143	O	SER	A	20	55.829	-5.129	20.805	1.00	28.23	A

ATOM	144	N	GLY	A	21	55.191	-3.911	22.576	1.00	25.87	A
ATOM	145	CA	GLY	A	21	53.797	-4.001	22.222	1.00	23.78	A
ATOM	146	C	GLY	A	21	53.076	-2.732	22.598	1.00	23.94	A
ATOM	147	O	GLY	A	21	53.638	-1.840	23.247	1.00	24.81	A
ATOM	148	N	GLN	A	22	51.821	-2.641	22.187	1.00	20.60	A
ATOM	149	CA	GLN	A	22	51.033	-1.470	22.495	1.00	19.67	A
ATOM	150	CB	GLN	A	22	51.239	-0.400	21.415	1.00	19.28	A
ATOM	151	CG	GLN	A	22	50.584	0.943	21.736	1.00	18.12	A
ATOM	152	CD	GLN	A	22	50.732	1.971	20.613	1.00	18.84	A
ATOM	153	OE1	GLN	A	22	51.694	2.749	20.576	1.00	19.77	A
ATOM	154	NE2	GLN	A	22	49.777	1.968	19.688	1.00	16.83	A
ATOM	155	C	GLN	A	22	49.573	-1.873	22.566	1.00	18.66	A
ATOM	156	O	GLN	A	22	49.128	-2.747	21.826	1.00	18.45	A
ATOM	157	N	TYR	A	23	48.842	-1.257	23.484	1.00	17.25	A
ATOM	158	CA	TYR	A	23	47.423	-1.529	23.615	1.00	16.53	A
ATOM	159	CB	TYR	A	23	47.127	-2.497	24.752	1.00	14.51	A
ATOM	160	CG	TYR	A	23	45.674	-2.904	24.760	1.00	12.67	A
ATOM	161	CD1	TYR	A	23	45.251	-4.070	24.121	1.00	13.38	A
ATOM	162	CE1	TYR	A	23	43.904	-4.415	24.070	1.00	13.23	A
ATOM	163	CD2	TYR	A	23	44.713	-2.093	25.346	1.00	11.07	A
ATOM	164	CE2	TYR	A	23	43.365	-2.425	25.299	1.00	12.99	A
ATOM	165	CZ	TYR	A	23	42.964	-3.583	24.664	1.00	13.72	A
ATOM	166	OH	TYR	A	23	41.624	-3.907	24.611	1.00	17.15	A
ATOM	167	C	TYR	A	23	46.694	-0.220	23.860	1.00	16.88	A
ATOM	168	O	TYR	A	23	46.975	0.491	24.824	1.00	16.57	A
ATOM	169	N	THR	A	24	45.757	0.085	22.969	1.00	16.16	A
ATOM	170	CA	THR	A	24	44.975	1.311	23.038	1.00	16.43	A
ATOM	171	CB	THR	A	24	45.594	2.405	22.136	1.00	18.41	A
ATOM	172	OG1	THR	A	24	45.581	1.954	20.771	1.00	17.20	A
ATOM	173	CG2	THR	A	24	47.029	2.692	22.537	1.00	18.64	A
ATOM	174	C	THR	A	24	43.570	1.058	22.499	1.00	15.15	A
ATOM	175	O	THR	A	24	43.314	0.037	21.879	1.00	15.70	A
ATOM	176	N	HIS	A	25	42.667	1.993	22.754	1.00	15.66	A
ATOM	177	CA	HIS	A	25	41.320	1.924	22.210	1.00	15.79	A
ATOM	178	CB	HIS	A	25	40.243	1.834	23.297	1.00	13.55	A
ATOM	179	CG	HIS	A	25	39.956	0.430	23.734	1.00	15.91	A
ATOM	180	CD2	HIS	A	25	40.688	-0.704	23.624	1.00	13.86	A
ATOM	181	ND1	HIS	A	25	38.790	0.071	24.374	1.00	15.91	A
ATOM	182	CE1	HIS	A	25	38.815	-1.222	24.639	1.00	14.38	A
ATOM	183	NE2	HIS	A	25	39.956	-1.715	24.193	1.00	16.99	A
ATOM	184	C	HIS	A	25	41.176	3.212	21.437	1.00	14.18	A
ATOM	185	O	HIS	A	25	41.677	4.241	21.865	1.00	13.52	A
ATOM	186	N	GLU	A	26	40.510	3.150	20.292	1.00	14.81	A
ATOM	187	CA	GLU	A	26	40.333	4.329	19.462	1.00	16.96	A
ATOM	188	CB	GLU	A	26	41.132	4.188	18.164	1.00	16.34	A
ATOM	189	CG	GLU	A	26	42.644	4.158	18.311	1.00	18.80	A
ATOM	190	CD	GLU	A	26	43.345	4.036	16.958	1.00	22.68	A
ATOM	191	OE1	GLU	A	26	42.744	4.456	15.946	1.00	26.77	A
ATOM	192	OE2	GLU	A	26	44.490	3.539	16.901	1.00	20.46	A
ATOM	193	C	GLU	A	26	38.875	4.543	19.101	1.00	17.22	A
ATOM	194	O	GLU	A	26	38.104	3.597	18.996	1.00	18.66	A
ATOM	195	N	PHE	A	27	38.503	5.802	18.917	1.00	18.91	A
ATOM	196	CA	PHE	A	27	37.150	6.135	18.509	1.00	19.32	A
ATOM	197	CB	PHE	A	27	36.290	6.546	19.698	1.00	20.19	A
ATOM	198	CG	PHE	A	27	34.834	6.653	19.357	1.00	23.33	A
ATOM	199	CD1	PHE	A	27	34.024	5.524	19.360	1.00	22.07	A
ATOM	200	CD2	PHE	A	27	34.289	7.868	18.971	1.00	23.24	A
ATOM	201	CE1	PHE	A	27	32.692	5.606	18.980	1.00	26.16	A
ATOM	202	CE2	PHE	A	27	32.954	7.962	18.587	1.00	25.99	A
ATOM	203	CZ	PHE	A	27	32.155	6.828	18.592	1.00	25.46	A
ATOM	204	C	PHE	A	27	37.260	7.291	17.522	1.00	19.10	A
ATOM	205	O	PHE	A	27	37.733	8.375	17.871	1.00	19.83	A
ATOM	206	N	ASP	A	28	36.831	7.052	16.288	1.00	19.17	A
ATOM	207	CA	ASP	A	28	36.901	8.060	15.227	1.00	18.94	A
ATOM	208	CB	ASP	A	28	35.910	9.203	15.473	1.00	21.33	A
ATOM	209	CG	ASP	A	28	34.472	8.787	15.223	1.00	24.96	A
ATOM	210	OD1	ASP	A	28	34.266	7.801	14.484	1.00	25.18	A
ATOM	211	OD2	ASP	A	28	33.552	9.448	15.749	1.00	27.42	A
ATOM	212	C	ASP	A	28	38.297	8.640	15.043	1.00	17.57	A
ATOM	213	O	ASP	A	28	38.467	9.853	14.955	1.00	17.04	A
ATOM	214	N	GLY	A	29	39.292	7.760	15.002	1.00	17.53	A
ATOM	215	CA	GLY	A	29	40.658	8.189	14.779	1.00	17.51	A
ATOM	216	C	GLY	A	29	41.437	8.738	15.953	1.00	16.95	A
ATOM	217	O	GLY	A	29	42.621	9.010	15.814	1.00	19.26	A

ATOM	218	N	ASP	A	30	40.797	8.922	17.098	1.00	16.92	A
ATOM	219	CA	ASP	A	30	41.511	9.438	18.254	1.00	16.83	A
ATOM	220	CB	ASP	A	30	40.816	10.678	18.796	1.00	18.99	A
ATOM	221	CG	ASP	A	30	40.988	11.864	17.888	1.00	21.09	A
ATOM	222	OD1	ASP	A	30	42.145	12.177	17.538	1.00	22.94	A
ATOM	223	OD2	ASP	A	30	39.971	12.478	17.525	1.00	21.68	A
ATOM	224	C	ASP	A	30	41.656	8.392	19.345	1.00	17.25	A
ATOM	225	O	ASP	A	30	40.777	7.553	19.543	1.00	15.40	A
ATOM	226	N	GLU	A	31	42.784	8.453	20.041	1.00	16.77	A
ATOM	227	CA	GLU	A	31	43.111	7.514	21.107	1.00	18.43	A
ATOM	228	CB	GLU	A	31	44.620	7.607	21.392	1.00	20.90	A
ATOM	229	CG	GLU	A	31	45.147	6.853	22.608	1.00	24.68	A
ATOM	230	CD	GLU	A	31	46.678	6.924	22.702	1.00	27.25	A
ATOM	231	OE1	GLU	A	31	47.258	7.931	22.239	1.00	26.93	A
ATOM	232	OE2	GLU	A	31	47.302	5.985	23.242	1.00	27.21	A
ATOM	233	C	GLU	A	31	42.296	7.777	22.375	1.00	17.51	A
ATOM	234	O	GLU	A	31	42.361	8.863	22.952	1.00	17.13	A
ATOM	235	N	GLN	A	32	41.525	6.784	22.807	1.00	15.52	A
ATOM	236	CA	GLN	A	32	40.726	6.942	24.020	1.00	16.47	A
ATOM	237	CB	GLN	A	32	39.542	5.980	24.009	1.00	15.91	A
ATOM	238	CG	GLN	A	32	38.439	6.399	23.065	1.00	15.97	A
ATOM	239	CD	GLN	A	32	37.292	5.419	23.071	1.00	20.20	A
ATOM	240	OE1	GLN	A	32	37.478	4.228	22.808	1.00	18.09	A
ATOM	241	NE2	GLN	A	32	36.091	5.912	23.374	1.00	20.57	A
ATOM	242	C	GLN	A	32	41.584	6.701	25.255	1.00	16.61	A
ATOM	243	O	GLN	A	32	41.448	7.387	26.272	1.00	15.51	A
ATOM	244	N	PHE	A	33	42.470	5.720	25.151	1.00	15.59	A
ATOM	245	CA	PHE	A	33	43.370	5.389	26.239	1.00	16.34	A
ATOM	246	CB	PHE	A	33	42.583	4.854	27.443	1.00	17.21	A
ATOM	247	CG	PHE	A	33	41.951	3.502	27.222	1.00	16.68	A
ATOM	248	CD1	PHE	A	33	42.686	2.333	27.406	1.00	15.57	A
ATOM	249	CD2	PHE	A	33	40.598	3.397	26.903	1.00	18.54	A
ATOM	250	CE1	PHE	A	33	42.083	1.076	27.288	1.00	16.34	A
ATOM	251	CE2	PHE	A	33	39.983	2.147	26.782	1.00	17.35	A
ATOM	252	CZ	PHE	A	33	40.729	0.983	26.978	1.00	16.56	A
ATOM	253	C	PHE	A	33	44.363	4.343	25.776	1.00	16.66	A
ATOM	254	O	PHE	A	33	44.209	3.746	24.712	1.00	16.85	A
ATOM	255	N	TYR	A	34	45.398	4.139	26.572	1.00	16.03	A
ATOM	256	CA	TYR	A	34	46.377	3.125	26.264	1.00	16.93	A
ATOM	257	CB	TYR	A	34	47.636	3.730	25.621	1.00	16.33	A
ATOM	258	CG	TYR	A	34	48.528	4.541	26.523	1.00	17.31	A
ATOM	259	CD1	TYR	A	34	49.519	3.930	27.291	1.00	17.48	A
ATOM	260	CE1	TYR	A	34	50.367	4.683	28.097	1.00	19.16	A
ATOM	261	CD2	TYR	A	34	48.404	5.928	26.586	1.00	17.68	A
ATOM	262	CE2	TYR	A	34	49.244	6.690	27.388	1.00	19.73	A
ATOM	263	CZ	TYR	A	34	50.224	6.060	28.141	1.00	20.10	A
ATOM	264	OH	TYR	A	34	51.044	6.815	28.941	1.00	23.02	A
ATOM	265	C	TYR	A	34	46.692	2.473	27.588	1.00	17.88	A
ATOM	266	O	TYR	A	34	46.429	3.042	28.646	1.00	21.13	A
ATOM	267	N	VAL	A	35	47.213	1.261	27.535	1.00	17.31	A
ATOM	268	CA	VAL	A	35	47.571	0.570	28.749	1.00	18.89	A
ATOM	269	CB	VAL	A	35	46.950	-0.848	28.804	1.00	19.12	A
ATOM	270	CG1	VAL	A	35	47.589	-1.660	29.912	1.00	17.56	A
ATOM	271	CG2	VAL	A	35	45.454	-0.742	29.048	1.00	19.75	A
ATOM	272	C	VAL	A	35	49.084	0.478	28.786	1.00	18.84	A
ATOM	273	O	VAL	A	35	49.701	-0.050	27.877	1.00	16.51	A
ATOM	274	N	ASP	A	36	49.676	1.039	29.830	1.00	22.55	A
ATOM	275	CA	ASP	A	36	51.121	0.984	29.996	1.00	25.86	A
ATOM	276	CB	ASP	A	36	51.542	1.872	31.172	1.00	26.89	A
ATOM	277	CG	ASP	A	36	53.033	2.108	31.221	1.00	26.55	A
ATOM	278	OD1	ASP	A	36	53.796	1.125	31.270	1.00	29.78	A
ATOM	279	OD2	ASP	A	36	53.441	3.285	31.213	1.00	30.03	A
ATOM	280	C	ASP	A	36	51.393	-0.484	30.314	1.00	26.39	A
ATOM	281	O	ASP	A	36	51.016	-0.976	31.378	1.00	27.38	A
ATOM	282	N	LEU	A	37	52.024	-1.187	29.387	1.00	27.51	A
ATOM	283	CA	LEU	A	37	52.305	-2.600	29.588	1.00	29.51	A
ATOM	284	CB	LEU	A	37	52.754	-3.231	28.270	1.00	26.29	A
ATOM	285	CG	LEU	A	37	51.704	-3.111	27.160	1.00	25.10	A
ATOM	286	CD1	LEU	A	37	52.265	-3.630	25.852	1.00	21.32	A
ATOM	287	CD2	LEU	A	37	50.455	-3.876	27.557	1.00	22.51	A
ATOM	288	C	LEU	A	37	53.348	-2.838	30.674	1.00	30.95	A
ATOM	289	O	LEU	A	37	53.222	-3.774	31.457	1.00	31.43	A
ATOM	290	N	GLY	A	38	54.362	-1.980	30.734	1.00	33.46	A
ATOM	291	CA	GLY	A	38	55.403	-2.140	31.737	1.00	35.44	A

ATOM	292	C	GLY	A	38	54.956	-1.863	33.162	1.00	37.63	A
ATOM	293	O	GLY	A	38	55.369	-2.549	34.098	1.00	38.42	A
ATOM	294	N	ARG	A	39	54.101	-0.861	33.334	1.00	38.93	A
ATOM	295	CA	ARG	A	39	53.625	-0.499	34.660	1.00	40.81	A
ATOM	296	CB	ARG	A	39	53.645	1.029	34.803	1.00	42.41	A
ATOM	297	CG	ARG	A	39	54.968	1.627	34.339	1.00	44.76	A
ATOM	298	CD	ARG	A	39	55.113	3.118	34.619	1.00	47.83	A
ATOM	299	NE	ARG	A	39	56.318	3.644	33.976	1.00	50.52	A
ATOM	300	CZ	ARG	A	39	56.902	4.799	34.281	1.00	53.40	A
ATOM	301	NH1	ARG	A	39	56.399	5.575	35.235	1.00	54.01	A
ATOM	302	NH2	ARG	A	39	57.998	5.179	33.633	1.00	54.18	A
ATOM	303	C	ARG	A	39	52.229	-1.057	34.936	1.00	41.12	A
ATOM	304	O	ARG	A	39	51.664	-0.847	36.014	1.00	39.71	A
ATOM	305	N	LYS	A	40	51.687	-1.779	33.955	1.00	40.65	A
ATOM	306	CA	LYS	A	40	50.365	-2.380	34.070	1.00	39.55	A
ATOM	307	CB	LYS	A	40	50.415	-3.554	35.053	1.00	42.42	A
ATOM	308	CG	LYS	A	40	49.196	-4.467	34.996	1.00	46.46	A
ATOM	309	CD	LYS	A	40	49.266	-5.563	36.054	1.00	50.42	A
ATOM	310	CE	LYS	A	40	48.077	-6.513	35.947	1.00	51.25	A
ATOM	311	NZ	LYS	A	40	46.781	-5.779	35.970	1.00	52.15	A
ATOM	312	C	LYS	A	40	49.338	-1.348	34.540	1.00	37.45	A
ATOM	313	O	LYS	A	40	48.647	-1.560	35.533	1.00	35.78	A
ATOM	314	N	GLU	A	41	49.245	-0.237	33.812	1.00	35.81	A
ATOM	315	CA	GLU	A	41	48.317	0.847	34.142	1.00	33.83	A
ATOM	316	CB	GLU	A	41	49.077	2.079	34.655	1.00	36.46	A
ATOM	317	CG	GLU	A	41	49.660	1.997	36.049	1.00	41.33	A
ATOM	318	CD	GLU	A	41	50.500	3.224	36.374	1.00	44.23	A
ATOM	319	OE1	GLU	A	41	50.067	4.343	36.022	1.00	46.67	A
ATOM	320	OE2	GLU	A	41	51.585	3.076	36.981	1.00	45.55	A
ATOM	321	C	GLU	A	41	47.492	1.301	32.937	1.00	30.89	A
ATOM	322	O	GLU	A	41	47.995	1.373	31.816	1.00	27.89	A
ATOM	323	N	THR	A	42	46.227	1.623	33.182	1.00	28.11	A
ATOM	324	CA	THR	A	42	45.354	2.127	32.135	1.00	26.58	A
ATOM	325	CB	THR	A	42	43.882	1.773	32.406	1.00	27.67	A
ATOM	326	OG1	THR	A	42	43.716	0.349	32.394	1.00	25.55	A
ATOM	327	CG2	THR	A	42	42.979	2.419	31.357	1.00	25.33	A
ATOM	328	C	THR	A	42	45.506	3.642	32.212	1.00	26.90	A
ATOM	329	O	THR	A	42	45.305	4.232	33.269	1.00	25.79	A
ATOM	330	N	VAL	A	43	45.881	4.273	31.108	1.00	25.87	A
ATOM	331	CA	VAL	A	43	46.045	5.720	31.106	1.00	24.36	A
ATOM	332	CB	VAL	A	43	47.474	6.119	30.670	1.00	24.45	A
ATOM	333	CG1	VAL	A	43	47.698	7.606	30.906	1.00	24.38	A
ATOM	334	CG2	VAL	A	43	48.504	5.289	31.433	1.00	22.82	A
ATOM	335	C	VAL	A	43	45.039	6.331	30.141	1.00	24.94	A
ATOM	336	O	VAL	A	43	45.143	6.133	28.930	1.00	24.72	A
ATOM	337	N	TRP	A	44	44.063	7.065	30.672	1.00	24.50	A
ATOM	338	CA	TRP	A	44	43.050	7.681	29.824	1.00	25.64	A
ATOM	339	CB	TRP	A	44	41.804	8.033	30.642	1.00	25.03	A
ATOM	340	CG	TRP	A	44	41.224	6.859	31.370	1.00	25.96	A
ATOM	341	CD2	TRP	A	44	40.281	5.906	30.858	1.00	25.77	A
ATOM	342	CE2	TRP	A	44	40.067	4.946	31.870	1.00	26.64	A
ATOM	343	CE3	TRP	A	44	39.599	5.766	29.641	1.00	24.94	A
ATOM	344	CD1	TRP	A	44	41.529	6.450	32.634	1.00	26.43	A
ATOM	345	NE1	TRP	A	44	40.840	5.305	32.942	1.00	26.28	A
ATOM	346	CZ2	TRP	A	44	39.197	3.860	31.704	1.00	25.00	A
ATOM	347	CZ3	TRP	A	44	38.734	4.688	29.476	1.00	22.40	A
ATOM	348	CH2	TRP	A	44	38.542	3.749	30.501	1.00	24.18	A
ATOM	349	C	TRP	A	44	43.578	8.925	29.116	1.00	26.30	A
ATOM	350	O	TRP	A	44	44.321	9.713	29.700	1.00	24.42	A
ATOM	351	N	CYS	A	45	43.193	9.090	27.853	1.00	28.01	A
ATOM	352	CA	CYS	A	45	43.635	10.234	27.062	1.00	30.22	A
ATOM	353	CB	CYS	A	45	44.069	9.777	25.666	1.00	29.51	A
ATOM	354	SG	CYS	A	45	45.547	8.727	25.680	1.00	30.66	A
ATOM	355	C	CYS	A	45	42.574	11.317	26.951	1.00	31.06	A
ATOM	356	O	CYS	A	45	42.836	12.399	26.428	1.00	34.14	A
ATOM	357	N	LEU	A	46	41.375	11.016	27.439	1.00	31.99	A
ATOM	358	CA	LEU	A	46	40.261	11.965	27.436	1.00	32.61	A
ATOM	359	CB	LEU	A	46	39.137	11.493	26.506	1.00	31.72	A
ATOM	360	CG	LEU	A	46	38.810	12.325	25.263	1.00	32.47	A
ATOM	361	CD1	LEU	A	46	37.492	11.830	24.674	1.00	28.87	A
ATOM	362	CD2	LEU	A	46	38.710	13.810	25.617	1.00	29.99	A
ATOM	363	C	LEU	A	46	39.734	12.042	28.869	1.00	32.81	A
ATOM	364	O	LEU	A	46	39.195	11.066	29.395	1.00	33.99	A
ATOM	365	N	PRO	A	47	39.893	13.201	29.521	1.00	32.52	A

ATOM	366	CD	PRO	A	47	40.488	14.442	28.986	1.00	32.23	A
ATOM	367	CA	PRO	A	47	39.437	13.392	30.901	1.00	32.18	A
ATOM	368	CB	PRO	A	47	39.487	14.908	31.063	1.00	32.11	A
ATOM	369	CG	PRO	A	47	40.690	15.270	30.236	1.00	31.60	A
ATOM	370	C	PRO	A	47	38.066	12.800	31.245	1.00	30.96	A
ATOM	371	O	PRO	A	47	37.927	12.103	32.243	1.00	30.17	A
ATOM	372	N	VAL	A	48	37.064	13.068	30.418	1.00	30.75	A
ATOM	373	CA	VAL	A	48	35.715	12.563	30.663	1.00	32.56	A
ATOM	374	CB	VAL	A	48	34.748	13.040	29.560	1.00	34.04	A
ATOM	375	CG1	VAL	A	48	33.320	12.683	29.932	1.00	34.16	A
ATOM	376	CG2	VAL	A	48	34.881	14.556	29.368	1.00	38.02	A
ATOM	377	C	VAL	A	48	35.633	11.033	30.765	1.00	33.13	A
ATOM	378	O	VAL	A	48	34.698	10.485	31.355	1.00	33.55	A
ATOM	379	N	LEU	A	49	36.615	10.350	30.192	1.00	33.30	A
ATOM	380	CA	LEU	A	49	36.661	8.892	30.208	1.00	32.44	A
ATOM	381	CB	LEU	A	49	37.498	8.391	29.023	1.00	30.62	A
ATOM	382	CG	LEU	A	49	36.792	8.027	27.702	1.00	31.64	A
ATOM	383	CD1	LEU	A	49	35.578	8.888	27.464	1.00	29.12	A
ATOM	384	CD2	LEU	A	49	37.783	8.157	26.551	1.00	31.05	A
ATOM	385	C	LEU	A	49	37.226	8.343	31.519	1.00	33.77	A
ATOM	386	O	LEU	A	49	37.138	7.142	31.787	1.00	34.14	A
ATOM	387	N	ARG	A	50	37.794	9.221	32.339	1.00	34.56	A
ATOM	388	CA	ARG	A	50	38.367	8.810	33.618	1.00	35.58	A
ATOM	389	CB	ARG	A	50	38.987	10.009	34.345	1.00	37.99	A
ATOM	390	CG	ARG	A	50	40.137	10.720	33.636	1.00	40.65	A
ATOM	391	CD	ARG	A	50	40.657	11.846	34.529	1.00	43.05	A
ATOM	392	NE	ARG	A	50	41.603	12.748	33.872	1.00	44.85	A
ATOM	393	CZ	ARG	A	50	42.815	12.403	33.444	1.00	46.08	A
ATOM	394	NH1	ARG	A	50	43.254	11.159	33.592	1.00	46.76	A
ATOM	395	NH2	ARG	A	50	43.599	13.314	32.880	1.00	46.08	A
ATOM	396	C	ARG	A	50	37.334	8.168	34.547	1.00	35.55	A
ATOM	397	O	ARG	A	50	37.693	7.475	35.495	1.00	35.21	A
ATOM	398	N	GLN	A	51	36.054	8.412	34.284	1.00	36.77	A
ATOM	399	CA	GLN	A	51	34.987	7.859	35.116	1.00	37.34	A
ATOM	400	CB	GLN	A	51	33.658	8.558	34.821	1.00	39.02	A
ATOM	401	CG	GLN	A	51	33.123	8.306	33.418	1.00	41.24	A
ATOM	402	CD	GLN	A	51	31.765	8.947	33.189	1.00	43.49	A
ATOM	403	OE1	GLN	A	51	30.781	8.597	33.843	1.00	43.80	A
ATOM	404	NE2	GLN	A	51	31.706	9.895	32.260	1.00	44.01	A
ATOM	405	C	GLN	A	51	34.821	6.362	34.896	1.00	36.85	A
ATOM	406	O	GLN	A	51	34.250	5.665	35.734	1.00	37.06	A
ATOM	407	N	PHE	A	52	35.316	5.871	33.764	1.00	35.13	A
ATOM	408	CA	PHE	A	52	35.218	4.454	33.446	1.00	32.82	A
ATOM	409	CB	PHE	A	52	35.143	4.258	31.931	1.00	31.28	A
ATOM	410	CG	PHE	A	52	33.902	4.838	31.301	1.00	29.86	A
ATOM	411	CD1	PHE	A	52	32.640	4.549	31.821	1.00	27.82	A
ATOM	412	CD2	PHE	A	52	33.992	5.652	30.177	1.00	27.71	A
ATOM	413	CE1	PHE	A	52	31.490	5.060	31.234	1.00	25.58	A
ATOM	414	CE2	PHE	A	52	32.847	6.171	29.580	1.00	28.10	A
ATOM	415	CZ	PHE	A	52	31.592	5.873	30.111	1.00	28.21	A
ATOM	416	C	PHE	A	52	36.405	3.675	34.004	1.00	32.57	A
ATOM	417	O	PHE	A	52	37.370	4.256	34.494	1.00	32.22	A
ATOM	418	N	ARG	A	53	36.327	2.353	33.927	1.00	32.80	A
ATOM	419	CA	ARG	A	53	37.397	1.498	34.419	1.00	32.77	A
ATOM	420	CB	ARG	A	53	37.005	0.862	35.760	1.00	36.56	A
ATOM	421	CG	ARG	A	53	36.741	1.867	36.881	1.00	42.83	A
ATOM	422	CD	ARG	A	53	36.523	1.168	38.214	1.00	49.04	A
ATOM	423	NE	ARG	A	53	36.308	2.111	39.312	1.00	53.82	A
ATOM	424	CZ	ARG	A	53	36.195	1.758	40.589	1.00	54.70	A
ATOM	425	NH1	ARG	A	53	36.277	0.478	40.937	1.00	55.50	A
ATOM	426	NH2	ARG	A	53	36.004	2.683	41.520	1.00	55.64	A
ATOM	427	C	ARG	A	53	37.706	0.404	33.405	1.00	29.88	A
ATOM	428	O	ARG	A	53	36.806	-0.117	32.743	1.00	28.71	A
ATOM	429	N	PHE	A	54	38.986	0.066	33.293	1.00	26.44	A
ATOM	430	CA	PHE	A	54	39.440	-0.960	32.371	1.00	22.47	A
ATOM	431	CB	PHE	A	54	39.905	-0.325	31.060	1.00	21.88	A
ATOM	432	CG	PHE	A	54	40.181	-1.320	29.974	1.00	20.69	A
ATOM	433	CD1	PHE	A	54	39.150	-1.801	29.180	1.00	19.52	A
ATOM	434	CD2	PHE	A	54	41.471	-1.782	29.750	1.00	18.68	A
ATOM	435	CE1	PHE	A	54	39.399	-2.734	28.170	1.00	22.81	A
ATOM	436	CE2	PHE	A	54	41.733	-2.714	28.746	1.00	20.58	A
ATOM	437	CZ	PHE	A	54	40.697	-3.190	27.954	1.00	20.86	A
ATOM	438	C	PHE	A	54	40.597	-1.711	33.017	1.00	23.43	A
ATOM	439	O	PHE	A	54	41.631	-1.122	33.351	1.00	23.53	A

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ATOM    440  N   ASP A  55      40.408  -3.011  33.198  1.00 22.82      A
ATOM    441  CA  ASP A  55      41.411  -3.874  33.805  1.00 24.70      A
ATOM    442  CB  ASP A  55      40.785  -5.246  34.083  1.00 23.26      A
ATOM    443  CG  ASP A  55      41.729  -6.190  34.789  1.00 26.24      A
ATOM    444  OD1 ASP A  55      42.924  -5.853  34.933  1.00 28.75      A
ATOM    445  OD2 ASP A  55      41.274  -7.279  35.192  1.00 26.38      A
ATOM    446  C   ASP A  55      42.613  -4.011  32.861  1.00 24.24      A
ATOM    447  O   ASP A  55      42.510  -4.629  31.802  1.00 23.91      A
ATOM    448  N   PRO A  56      43.770  -3.437  33.238  1.00 23.69      A
ATOM    449  CD  PRO A  56      44.084  -2.761  34.509  1.00 23.79      A
ATOM    450  CA  PRO A  56      44.961  -3.522  32.387  1.00 23.45      A
ATOM    451  CB  PRO A  56      46.002  -2.707  33.162  1.00 23.35      A
ATOM    452  CG  PRO A  56      45.592  -2.897  34.580  1.00 23.31      A
ATOM    453  C   PRO A  56      45.413  -4.952  32.114  1.00 23.66      A
ATOM    454  O   PRO A  56      46.099  -5.220  31.125  1.00 23.15      A
ATOM    455  N   GLN A  57      45.025  -5.871  32.991  1.00 21.84      A
ATOM    456  CA  GLN A  57      45.397  -7.261  32.818  1.00 22.47      A
ATOM    457  CB  GLN A  57      44.834  -8.108  33.965  1.00 23.11      A
ATOM    458  CG  GLN A  57      45.226  -9.568  33.873  1.00 20.82      A
ATOM    459  CD  GLN A  57      46.722  -9.745  33.733  1.00 22.23      A
ATOM    460  OE1 GLN A  57      47.497  -9.227  34.539  1.00 21.88      A
ATOM    461  NE2 GLN A  57      47.138 -10.475  32.707  1.00 23.15      A
ATOM    462  C   GLN A  57      44.882  -7.792  31.482  1.00 22.21      A
ATOM    463  O   GLN A  57      45.452  -8.723  30.913  1.00 23.00      A
ATOM    464  N   PHE A  58      43.801  -7.203  30.980  1.00 22.42      A
ATOM    465  CA  PHE A  58      43.254  -7.640  29.704  1.00 21.07      A
ATOM    466  CB  PHE A  58      42.004  -6.857  29.338  1.00 20.45      A
ATOM    467  CG  PHE A  58      41.411  -7.287  28.031  1.00 21.03      A
ATOM    468  CD1 PHE A  58      40.472  -8.312  27.988  1.00 18.42      A
ATOM    469  CD2 PHE A  58      41.864  -6.736  26.835  1.00 18.79      A
ATOM    470  CE1 PHE A  58      39.992  -8.792  26.765  1.00 21.25      A
ATOM    471  CE2 PHE A  58      41.393  -7.207  25.610  1.00 20.28      A
ATOM    472  CZ  PHE A  58      40.457  -8.238  25.578  1.00 21.18      A
ATOM    473  C   PHE A  58      44.278  -7.401  28.612  1.00 21.79      A
ATOM    474  O   PHE A  58      44.529  -8.260  27.763  1.00 21.84      A
ATOM    475  N   ALA A  59      44.849  -6.202  28.637  1.00 21.80      A
ATOM    476  CA  ALA A  59      45.840  -5.801  27.657  1.00 21.67      A
ATOM    477  CB  ALA A  59      46.254  -4.346  27.892  1.00 21.11      A
ATOM    478  C   ALA A  59      47.053  -6.711  27.732  1.00 22.06      A
ATOM    479  O   ALA A  59      47.518  -7.213  26.706  1.00 22.53      A
ATOM    480  N   LEU A  60      47.561  -6.925  28.945  1.00 19.83      A
ATOM    481  CA  LEU A  60      48.729  -7.777  29.116  1.00 20.88      A
ATOM    482  CB  LEU A  60      49.163  -7.815  30.585  1.00 20.57      A
ATOM    483  CG  LEU A  60      50.060  -6.657  31.053  1.00 24.17      A
ATOM    484  CD1 LEU A  60      49.239  -5.392  31.205  1.00 24.16      A
ATOM    485  CD2 LEU A  60      50.717  -7.012  32.382  1.00 24.31      A
ATOM    486  C   LEU A  60      48.496  -9.193  28.598  1.00 20.44      A
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ATOM    488  N   THR A  61      47.319  -9.749  28.871  1.00 20.69      A
ATOM    489  CA  THR A  61      46.997 -11.101  28.418  1.00 19.49      A
ATOM    490  CB  THR A  61      45.697 -11.629  29.084  1.00 18.59      A
ATOM    491  OG1 THR A  61      45.919 -11.830  30.489  1.00 21.12      A
ATOM    492  CG2 THR A  61      45.274 -12.942  28.453  1.00 17.61      A
ATOM    493  C   THR A  61      46.834 -11.140  26.903  1.00 19.22      A
ATOM    494  O   THR A  61      47.325 -12.059  26.242  1.00 21.19      A
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ATOM    497  CB  ASN A  62      45.020  -8.910  24.552  1.00 20.51      A
ATOM    498  CG  ASN A  62      43.835  -9.324  23.680  1.00 22.06      A
ATOM    499  OD1 ASN A  62      43.406 -10.482  23.693  1.00 21.71      A
ATOM    500  ND2 ASN A  62      43.294  -8.371  22.930  1.00 20.64      A
ATOM    501  C   ASN A  62      47.270  -9.975  24.188  1.00 18.14      A
ATOM    502  O   ASN A  62      47.517 -10.681  23.217  1.00 19.73      A
ATOM    503  N   ILE A  63      48.146  -9.108  24.684  1.00 18.98      A
ATOM    504  CA  ILE A  63      49.448  -8.921  24.061  1.00 19.88      A
ATOM    505  CB  ILE A  63      50.229  -7.757  24.725  1.00 21.31      A
ATOM    506  CG2 ILE A  63      51.601  -7.590  24.064  1.00 20.11      A
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ATOM    508  CD1 ILE A  63      49.037  -6.092  23.171  1.00 16.67      A
ATOM    509  C   ILE A  63      50.247 -10.212  24.169  1.00 20.35      A
ATOM    510  O   ILE A  63      51.048 -10.538  23.297  1.00 21.37      A
ATOM    511  N   ALA A  64      50.028 -10.949  25.247  1.00 22.48      A
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ATOM    513  CB  ALA A  64      50.373 -12.816  26.785  1.00 22.29      A
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ATOM    518  CB  VAL A  65      46.887 -13.840  22.859  1.00 24.28      A
ATOM    519  CG1 VAL A  65      46.338 -14.722  21.729  1.00 22.40      A
ATOM    520  CG2 VAL A  65      46.325 -14.296  24.209  1.00 19.61      A
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ATOM    528  CD2 LEU A  66      47.407  -9.866  19.627  1.00 20.49      A
ATOM    529  C   LEU A  66      51.143 -12.267  19.906  1.00 23.53      A
ATOM    530  O   LEU A  66      51.548 -12.644  18.813  1.00 22.08      A
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ATOM    534  CG  LYS A  67      55.278 -13.174  22.548  1.00 30.64      A
ATOM    535  CD  LYS A  67      55.779 -13.001  23.976  1.00 32.41      A
ATOM    536  CE  LYS A  67      57.159 -13.609  24.157  1.00 35.25      A
ATOM    537  NZ  LYS A  67      58.144 -13.036  23.199  1.00 38.78      A
ATOM    538  C   LYS A  67      53.200 -14.299  20.598  1.00 29.87      A
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ATOM    543  CG  HIS A  68      50.827 -18.557  21.520  1.00 38.63      A
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ATOM    549  O   HIS A  68      52.463 -17.447  18.746  1.00 32.07      A
ATOM    550  N   ASN A  69      50.826 -15.928  18.977  1.00 29.53      A
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ATOM    568  CB  ASN A  71      55.884 -17.651  18.427  1.00 39.70      A
ATOM    569  CG  ASN A  71      56.490 -16.748  19.490  1.00 44.05      A
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ATOM    573  O   ASN A  71      56.358 -18.417  15.224  1.00 37.91      A
ATOM    574  N   SER A  72      54.221 -18.407  15.919  1.00 39.49      A
ATOM    575  CA  SER A  72      53.780 -19.390  14.944  1.00 40.10      A
ATOM    576  CB  SER A  72      52.341 -19.816  15.256  1.00 41.05      A
ATOM    577  OG  SER A  72      51.867 -20.763  14.311  1.00 42.44      A
ATOM    578  C   SER A  72      53.860 -18.838  13.523  1.00 40.66      A
ATOM    579  O   SER A  72      54.336 -19.516  12.608  1.00 40.90      A
ATOM    580  N   LEU A  73      53.391 -17.608  13.341  1.00 39.86      A
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ATOM    582  CB  LEU A  73      52.676 -15.632  12.082  1.00 38.99      A
ATOM    583  CG  LEU A  73      51.221 -15.651  11.598  1.00 40.31      A
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ATOM    590  CB  ILE A  74      58.104 -16.084  13.123  1.00 41.88      A
ATOM    591  CG2 ILE A  74      59.552 -16.054  12.640  1.00 41.29      A
ATOM    592  CG1 ILE A  74      57.729 -14.734  13.738  1.00 41.53      A
ATOM    593  CD1 ILE A  74      58.519 -14.380  14.990  1.00 40.94      A
ATOM    594  C   ILE A  74      57.599 -17.699  11.273  1.00 42.04      A
ATOM    595  O   ILE A  74      58.119 -17.689  10.157  1.00 41.12      A
ATOM    596  N   LYS A  75      57.364 -18.816  11.954  1.00 43.51      A
ATOM    597  CA  LYS A  75      57.730 -20.125  11.423  1.00 46.61      A
ATOM    598  CB  LYS A  75      57.470 -21.217  12.466  1.00 47.84      A
ATOM    599  CG  LYS A  75      58.096 -20.964  13.828  1.00 50.82      A
ATOM    600  CD  LYS A  75      57.661 -22.029  14.828  1.00 53.97      A
ATOM    601  CE  LYS A  75      58.005 -21.646  16.269  1.00 55.95      A
ATOM    602  NZ  LYS A  75      59.472 -21.572  16.531  1.00 56.31      A
ATOM    603  C   LYS A  75      56.944 -20.452  10.151  1.00 47.99      A
ATOM    604  O   LYS A  75      57.530 -20.720   9.106  1.00 48.11      A
ATOM    605  N   ARG A  76      55.617 -20.419  10.242  1.00 49.31      A
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ATOM    607  CB  ARG A  76      53.287 -20.744   9.530  1.00 53.08      A
ATOM    608  CG  ARG A  76      52.960 -21.847  10.538  1.00 56.83      A
ATOM    609  CD  ARG A  76      51.478 -22.247  10.574  1.00 58.85      A
ATOM    610  NE  ARG A  76      50.620 -21.253  11.212  1.00 60.24      A
ATOM    611  CZ  ARG A  76      49.786 -20.452  10.557  1.00 61.29      A
ATOM    612  NH1 ARG A  76      49.692 -20.526   9.234  1.00 60.08      A
ATOM    613  NH2 ARG A  76      49.044 -19.578  11.226  1.00 61.97      A
ATOM    614  C   ARG A  76      54.947 -19.871   7.864  1.00 50.93      A
ATOM    615  O   ARG A  76      54.705 -20.324   6.747  1.00 51.19      A
ATOM    616  N   SER A  77      55.380 -18.630   8.046  1.00 50.61      A
ATOM    617  CA  SER A  77      55.574 -17.745   6.900  1.00 50.08      A
ATOM    618  CB  SER A  77      55.262 -16.295   7.282  1.00 50.05      A
ATOM    619  OG  SER A  77      56.223 -15.787   8.193  1.00 49.23      A
ATOM    620  C   SER A  77      57.006 -17.827   6.386  1.00 49.56      A
ATOM    621  O   SER A  77      57.420 -17.015   5.558  1.00 49.40      A
ATOM    622  N   ASN A  78      57.752 -18.817   6.866  1.00 49.24      A
ATOM    623  CA  ASN A  78      59.148 -18.982   6.472  1.00 49.14      A
ATOM    624  CB  ASN A  78      59.256 -19.307   4.976  1.00 48.86      A
ATOM    625  CG  ASN A  78      60.668 -19.689   4.558  1.00 48.09      A
ATOM    626  OD1 ASN A  78      61.347 -20.442   5.254  1.00 46.05      A
ATOM    627  ND2 ASN A  78      61.109 -19.182   3.409  1.00 47.78      A
ATOM    628  C   ASN A  78      59.857 -17.667   6.803  1.00 49.08      A
ATOM    629  O   ASN A  78      60.614 -17.114   6.001  1.00 48.39      A
ATOM    630  N   SER A  79      59.571 -17.177   8.006  1.00 48.58      A
ATOM    631  CA  SER A  79      60.139 -15.945   8.538  1.00 48.38      A
ATOM    632  CB  SER A  79      61.549 -16.208   9.071  1.00 48.53      A
ATOM    633  OG  SER A  79      62.415 -16.612   8.027  1.00 50.05      A
ATOM    634  C   SER A  79      60.176 -14.768   7.573  1.00 47.13      A
ATOM    635  O   SER A  79      61.197 -14.098   7.444  1.00 47.66      A
ATOM    636  N   THR A  80      59.069 -14.516   6.887  1.00 45.82      A
ATOM    637  CA  THR A  80      59.008 -13.379   5.982  1.00 45.51      A
ATOM    638  CB  THR A  80      57.814 -13.501   5.016  1.00 47.03      A
ATOM    639  OG1 THR A  80      56.663 -13.963   5.731  1.00 47.95      A
ATOM    640  CG2 THR A  80      58.134 -14.487   3.909  1.00 47.59      A
ATOM    641  C   THR A  80      58.855 -12.147   6.882  1.00 44.25      A
ATOM    642  O   THR A  80      57.835 -11.976   7.556  1.00 43.69      A
ATOM    643  N   ALA A  81      59.889 -11.311   6.903  1.00 41.47      A
ATOM    644  CA  ALA A  81      59.916 -10.119   7.740  1.00 38.59      A
ATOM    645  CB  ALA A  81      61.363  -9.734   8.039  1.00 38.61      A
ATOM    646  C   ALA A  81      59.168  -8.915   7.185  1.00 36.89      A
ATOM    647  O   ALA A  81      58.766  -8.884   6.018  1.00 35.83      A
ATOM    648  N   ALA A  82      58.993  -7.920   8.050  1.00 34.86      A
ATOM    649  CA  ALA A  82      58.300  -6.690   7.698  1.00 33.41      A
ATOM    650  CB  ALA A  82      57.957  -5.912   8.961  1.00 34.17      A
ATOM    651  C   ALA A  82      59.141  -5.824   6.770  1.00 32.28      A
ATOM    652  O   ALA A  82      60.372  -5.807   6.859  1.00 28.62      A
ATOM    653  N   THR A  83      58.457  -5.113   5.878  1.00 31.60      A
ATOM    654  CA  THR A  83      59.100  -4.217   4.931  1.00 32.87      A
ATOM    655  CB  THR A  83      58.377  -4.224   3.575  1.00 34.31      A
ATOM    656  OG1 THR A  83      58.347  -5.562   3.058  1.00 36.90      A
ATOM    657  CG2 THR A  83      59.098  -3.309   2.578  1.00 34.35      A
ATOM    658  C   THR A  83      59.041  -2.808   5.500  1.00 32.84      A
ATOM    659  O   THR A  83      58.029  -2.406   6.067  1.00 33.97      A
ATOM    660  N   ASN A  84      60.130  -2.062   5.356  1.00 34.76      A
ATOM    661  CA  ASN A  84      60.188  -0.697   5.858  1.00 34.66      A
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ATOM    662  CB  ASN A  84      61.634  -0.252   6.069  1.00 36.13      A
ATOM    663  CG  ASN A  84      62.337  -1.045   7.132  1.00 37.22      A
ATOM    664  OD1 ASN A  84      61.809  -1.241   8.220  1.00 39.34      A
ATOM    665  ND2 ASN A  84      63.548  -1.497   6.830  1.00 38.89      A
ATOM    666  C   ASN A  84      59.549   0.267   4.881  1.00 35.51      A
ATOM    667  O   ASN A  84      59.961   0.343   3.724  1.00 38.89      A
ATOM    668  N   GLU A  85      58.546   1.004   5.344  1.00 34.17      A
ATOM    669  CA  GLU A  85      57.890   2.001   4.507  1.00 32.82      A
ATOM    670  CB  GLU A  85      56.427   2.183   4.921  1.00 36.55      A
ATOM    671  CG  GLU A  85      55.523   0.993   4.645  1.00 42.74      A
ATOM    672  CD  GLU A  85      55.271   0.782   3.167  1.00 46.65      A
ATOM    673  OE1 GLU A  85      54.829   1.741   2.494  1.00 49.22      A
ATOM    674  OE2 GLU A  85      55.508  -0.345   2.679  1.00 48.74      A
ATOM    675  C   GLU A  85      58.624   3.328   4.701  1.00 30.10      A
ATOM    676  O   GLU A  85      59.489   3.453   5.571  1.00 27.29      A
ATOM    677  N   VAL A  86      58.274   4.308   3.878  1.00 28.67      A
ATOM    678  CA  VAL A  86      58.849   5.641   3.951  1.00 27.33      A
ATOM    679  CB  VAL A  86      59.146   6.202   2.539  1.00 27.74      A
ATOM    680  CG1 VAL A  86      59.688   7.637   2.640  1.00 22.06      A
ATOM    681  CG2 VAL A  86      60.139   5.289   1.815  1.00 25.30      A
ATOM    682  C   VAL A  86      57.786   6.519   4.614  1.00 27.98      A
ATOM    683  O   VAL A  86      56.685   6.671   4.086  1.00 28.76      A
ATOM    684  N   PRO A  87      58.095   7.098   5.784  1.00 27.39      A
ATOM    685  CD  PRO A  87      59.268   6.861   6.644  1.00 26.00      A
ATOM    686  CA  PRO A  87      57.106   7.949   6.458  1.00 28.38      A
ATOM    687  CB  PRO A  87      57.611   7.989   7.899  1.00 26.97      A
ATOM    688  CG  PRO A  87      59.099   7.915   7.727  1.00 27.97      A
ATOM    689  C   PRO A  87      56.963   9.341   5.848  1.00 30.15      A
ATOM    690  O   PRO A  87      57.902   9.871   5.245  1.00 31.62      A
ATOM    691  N   GLU A  88      55.778   9.922   6.004  1.00 29.70      A
ATOM    692  CA  GLU A  88      55.489  11.252   5.481  1.00 29.65      A
ATOM    693  CB  GLU A  88      54.173  11.229   4.699  1.00 32.09      A
ATOM    694  CG  GLU A  88      54.038  12.330   3.655  1.00 38.40      A
ATOM    695  CD  GLU A  88      52.790  12.172   2.792  1.00 41.07      A
ATOM    696  OE1 GLU A  88      51.675  12.411   3.303  1.00 42.35      A
ATOM    697  OE2 GLU A  88      52.925  11.800   1.604  1.00 43.46      A
ATOM    698  C   GLU A  88      55.385  12.191   6.680  1.00 27.98      A
ATOM    699  O   GLU A  88      54.588  11.954   7.597  1.00 26.16      A
ATOM    700  N   VAL A  89      56.187  13.253   6.672  1.00 23.90      A
ATOM    701  CA  VAL A  89      56.201  14.194   7.788  1.00 21.62      A
ATOM    702  CB  VAL A  89      57.637  14.358   8.333  1.00 18.36      A
ATOM    703  CG1 VAL A  89      57.639  15.295   9.534  1.00 17.11      A
ATOM    704  CG2 VAL A  89      58.204  12.990   8.719  1.00 16.77      A
ATOM    705  C   VAL A  89      55.626  15.575   7.483  1.00 21.60      A
ATOM    706  O   VAL A  89      55.859  16.143   6.420  1.00 21.72      A
ATOM    707  N   THR A  90      54.886  16.115   8.444  1.00 21.28      A
ATOM    708  CA  THR A  90      54.269  17.425   8.301  1.00 20.62      A
ATOM    709  CB  THR A  90      52.813  17.303   7.823  1.00 21.90      A
ATOM    710  OG1 THR A  90      52.770  16.537   6.613  1.00 26.43      A
ATOM    711  CG2 THR A  90      52.220  18.678   7.558  1.00 23.70      A
ATOM    712  C   THR A  90      54.264  18.153   9.639  1.00 21.08      A
ATOM    713  O   THR A  90      53.887  17.578  10.667  1.00 20.41      A
ATOM    714  N   VAL A  91      54.670  19.423   9.618  1.00 19.24      A
ATOM    715  CA  VAL A  91      54.712  20.243  10.822  1.00 19.55      A
ATOM    716  CB  VAL A  91      56.149  20.739  11.102  1.00 19.97      A
ATOM    717  CG1 VAL A  91      56.167  21.629  12.338  1.00 16.82      A
ATOM    718  CG2 VAL A  91      57.072  19.547  11.280  1.00 17.43      A
ATOM    719  C   VAL A  91      53.789  21.452  10.703  1.00 19.10      A
ATOM    720  O   VAL A  91      53.735  22.108   9.666  1.00 20.59      A
ATOM    721  N   PHE A  92      53.059  21.739  11.772  1.00 18.65      A
ATOM    722  CA  PHE A  92      52.146  22.870  11.785  1.00 19.10      A
ATOM    723  CB  PHE A  92      50.853  22.516  11.030  1.00 18.89      A
ATOM    724  CG  PHE A  92      50.176  21.264  11.525  1.00 16.16      A
ATOM    725  CD1 PHE A  92      49.165  21.331  12.480  1.00 16.77      A
ATOM    726  CD2 PHE A  92      50.561  20.017  11.047  1.00 16.62      A
ATOM    727  CE1 PHE A  92      48.543  20.168  12.955  1.00 18.06      A
ATOM    728  CE2 PHE A  92      49.954  18.848  11.511  1.00 18.17      A
ATOM    729  CZ  PHE A  92      48.936  18.922  12.471  1.00 17.05      A
ATOM    730  C   PHE A  92      51.844  23.236  13.229  1.00 19.48      A
ATOM    731  O   PHE A  92      52.055  22.430  14.134  1.00 19.64      A
ATOM    732  N   SER A  93      51.365  24.453  13.445  1.00 18.69      A
ATOM    733  CA  SER A  93      51.052  24.896  14.792  1.00 19.26      A
ATOM    734  CB  SER A  93      51.275  26.408  14.921  1.00 17.24      A
ATOM    735  OG  SER A  93      50.435  27.132  14.043  1.00 20.17      A
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ATOM    736  C   SER A  93      49.618  24.554  15.172  1.00 19.04      A
ATOM    737  O   SER A  93      48.748  24.417  14.316  1.00 17.44      A
ATOM    738  N   LYS A  94      49.390  24.418  16.472  1.00 20.26      A
ATOM    739  CA  LYS A  94      48.077  24.108  17.010  1.00 21.70      A
ATOM    740  CB  LYS A  94      48.227  23.670  18.464  1.00 22.45      A
ATOM    741  CG  LYS A  94      46.938  23.273  19.139  1.00 24.42      A
ATOM    742  CD  LYS A  94      47.189  22.867  20.587  1.00 25.48      A
ATOM    743  CE  LYS A  94      45.881  22.548  21.297  1.00 25.73      A
ATOM    744  NZ  LYS A  94      45.122  21.533  20.517  1.00 26.34      A
ATOM    745  C   LYS A  94      47.169  25.340  16.921  1.00 23.44      A
ATOM    746  O   LYS A  94      45.984  25.235  16.598  1.00 20.95      A
ATOM    747  N   SER A  95      47.742  26.505  17.212  1.00 24.82      A
ATOM    748  CA  SER A  95      47.013  27.769  17.172  1.00 27.69      A
ATOM    749  CB  SER A  95      46.969  28.408  18.565  1.00 26.33      A
ATOM    750  OG  SER A  95      46.202  27.635  19.468  1.00 32.56      A
ATOM    751  C   SER A  95      47.688  28.747  16.219  1.00 27.36      A
ATOM    752  O   SER A  95      48.824  28.529  15.797  1.00 27.94      A
ATOM    753  N   PRO A  96      46.985  29.830  15.849  1.00 27.27      A
ATOM    754  CD  PRO A  96      45.611  30.232  16.193  1.00 28.85      A
ATOM    755  CA  PRO A  96      47.606  30.801  14.946  1.00 26.90      A
ATOM    756  CB  PRO A  96      46.471  31.788  14.663  1.00 28.13      A
ATOM    757  CG  PRO A  96      45.634  31.719  15.907  1.00 28.36      A
ATOM    758  C   PRO A  96      48.786  31.421  15.700  1.00 24.92      A
ATOM    759  O   PRO A  96      48.757  31.556  16.925  1.00 24.65      A
ATOM    760  N   VAL A  97      49.828  31.786  14.973  1.00 24.24      A
ATOM    761  CA  VAL A  97      51.016  32.332  15.601  1.00 25.15      A
ATOM    762  CB  VAL A  97      52.261  32.087  14.715  1.00 26.78      A
ATOM    763  CG1 VAL A  97      53.531  32.372  15.508  1.00 26.15      A
ATOM    764  CG2 VAL A  97      52.255  30.659  14.198  1.00 26.15      A
ATOM    765  C   VAL A  97      50.935  33.820  15.920  1.00 25.62      A
ATOM    766  O   VAL A  97      50.624  34.638  15.054  1.00 25.01      A
ATOM    767  N   THR A  98      51.207  34.157  17.175  1.00 24.46      A
ATOM    768  CA  THR A  98      51.212  35.542  17.627  1.00 25.36      A
ATOM    769  CB  THR A  98      49.835  35.941  18.283  1.00 25.29      A
ATOM    770  OG1 THR A  98      50.030  37.008  19.217  1.00 30.50      A
ATOM    771  CG2 THR A  98      49.196  34.771  18.985  1.00 29.80      A
ATOM    772  C   THR A  98      52.382  35.678  18.605  1.00 24.87      A
ATOM    773  O   THR A  98      52.499  34.902  19.554  1.00 23.01      A
ATOM    774  N   LEU A  99      53.273  36.634  18.344  1.00 25.94      A
ATOM    775  CA  LEU A  99      54.445  36.843  19.198  1.00 28.02      A
ATOM    776  CB  LEU A  99      55.194  38.114  18.797  1.00 31.12      A
ATOM    777  CG  LEU A  99      55.950  38.211  17.469  1.00 35.44      A
ATOM    778  CD1 LEU A  99      56.650  39.577  17.416  1.00 35.45      A
ATOM    779  CD2 LEU A  99      56.970  37.087  17.341  1.00 35.62      A
ATOM    780  C   LEU A  99      54.135  36.932  20.689  1.00 27.10      A
ATOM    781  O   LEU A  99      53.201  37.616  21.097  1.00 25.34      A
ATOM    782  N   GLY A 100      54.935  36.233  21.492  1.00 26.71      A
ATOM    783  CA  GLY A 100      54.762  36.253  22.935  1.00 26.48      A
ATOM    784  C   GLY A 100      53.635  35.398  23.479  1.00 26.32      A
ATOM    785  O   GLY A 100      53.428  35.323  24.695  1.00 25.37      A
ATOM    786  N   GLN A 101      52.913  34.734  22.585  1.00 25.16      A
ATOM    787  CA  GLN A 101      51.796  33.896  22.999  1.00 25.74      A
ATOM    788  CB  GLN A 101      50.573  34.219  22.143  1.00 28.06      A
ATOM    789  CG  GLN A 101      49.258  33.911  22.814  1.00 30.50      A
ATOM    790  CD  GLN A 101      49.123  34.599  24.162  1.00 32.88      A
ATOM    791  OE1 GLN A 101      48.953  35.820  24.251  1.00 30.83      A
ATOM    792  NE2 GLN A 101      49.202  33.813  25.221  1.00 33.04      A
ATOM    793  C   GLN A 101      52.117  32.409  22.901  1.00 24.01      A
ATOM    794  O   GLN A 101      52.280  31.881  21.807  1.00 24.25      A
ATOM    795  N   PRO A 102      52.199  31.715  24.051  1.00 22.08      A
ATOM    796  CD  PRO A 102      51.959  32.244  25.410  1.00 22.41      A
ATOM    797  CA  PRO A 102      52.500  30.278  24.096  1.00 21.37      A
ATOM    798  CB  PRO A 102      52.136  29.898  25.526  1.00 21.61      A
ATOM    799  CG  PRO A 102      52.521  31.147  26.297  1.00 21.90      A
ATOM    800  C   PRO A 102      51.706  29.480  23.068  1.00 21.30      A
ATOM    801  O   PRO A 102      50.496  29.644  22.947  1.00 21.93      A
ATOM    802  N   ASN A 103      52.396  28.618  22.327  1.00 18.86      A
ATOM    803  CA  ASN A 103      51.749  27.802  21.305  1.00 17.69      A
ATOM    804  CB  ASN A 103      52.040  28.379  19.913  1.00 17.99      A
ATOM    805  CG  ASN A 103      50.899  28.162  18.929  1.00 18.28      A
ATOM    806  OD1 ASN A 103      50.348  27.060  18.808  1.00 17.82      A
ATOM    807  ND2 ASN A 103      50.549  29.223  18.204  1.00 17.71      A
ATOM    808  C   ASN A 103      52.281  26.370  21.385  1.00 15.57      A
ATOM    809  O   ASN A 103      53.000  26.012  22.310  1.00 14.67      A
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ATOM    810  N   ILE A 104      51.918  25.565  20.397  1.00 15.80      A
ATOM    811  CA  ILE A 104      52.335  24.177  20.328  1.00 13.66      A
ATOM    812  CB  ILE A 104      51.255  23.235  20.888  1.00 15.40      A
ATOM    813  CG2 ILE A 104      51.589  21.792  20.539  1.00 13.82      A
ATOM    814  CG1 ILE A 104      51.132  23.421  22.400  1.00 17.40      A
ATOM    815  CD1 ILE A 104      50.129  22.494  23.047  1.00 18.65      A
ATOM    816  C   ILE A 104      52.588  23.775  18.896  1.00 14.36      A
ATOM    817  O   ILE A 104      51.716  23.924  18.052  1.00 16.86      A
ATOM    818  N   LEU A 105      53.785  23.272  18.616  1.00 15.67      A
ATOM    819  CA  LEU A 105      54.090  22.822  17.272  1.00 15.52      A
ATOM    820  CB  LEU A 105      55.568  22.978  16.940  1.00 15.73      A
ATOM    821  CG  LEU A 105      56.058  24.391  16.649  1.00 20.75      A
ATOM    822  CD1 LEU A 105      57.400  24.298  15.919  1.00 20.19      A
ATOM    823  CD2 LEU A 105      55.030  25.141  15.791  1.00 21.31      A
ATOM    824  C   LEU A 105      53.709  21.362  17.202  1.00 15.97      A
ATOM    825  O   LEU A 105      53.968  20.589  18.133  1.00 14.11      A
ATOM    826  N   ILE A 106      53.078  20.993  16.099  1.00 14.18      A
ATOM    827  CA  ILE A 106      52.643  19.630  15.903  1.00 15.40      A
ATOM    828  CB  ILE A 106      51.122  19.576  15.636  1.00 15.11      A
ATOM    829  CG2 ILE A 106      50.661  18.135  15.592  1.00 12.46      A
ATOM    830  CG1 ILE A 106      50.380  20.354  16.734  1.00 15.51      A
ATOM    831  CD1 ILE A 106      48.862  20.413  16.565  1.00 12.83      A
ATOM    832  C   ILE A 106      53.381  19.011  14.725  1.00 16.48      A
ATOM    833  O   ILE A 106      53.484  19.607  13.651  1.00 17.37      A
ATOM    834  N   CYS A 107      53.900  17.811  14.944  1.00 17.86      A
ATOM    835  CA  CYS A 107      54.621  17.083  13.917  1.00 18.32      A
ATOM    836  C   CYS A 107      53.886  15.776  13.663  1.00 18.29      A
ATOM    837  O   CYS A 107      53.846  14.909  14.533  1.00 18.13      A
ATOM    838  CB  CYS A 107      56.041  16.792  14.382  1.00 19.33      A
ATOM    839  SG  CYS A 107      57.029  15.889  13.158  1.00 25.82      A
ATOM    840  N   LEU A 108      53.304  15.649  12.472  1.00 17.89      A
ATOM    841  CA  LEU A 108      52.556  14.456  12.088  1.00 18.82      A
ATOM    842  CB  LEU A 108      51.330  14.850  11.252  1.00 20.17      A
ATOM    843  CG  LEU A 108      50.129  13.900  11.053  1.00 21.48      A
ATOM    844  CD1 LEU A 108      49.623  14.049   9.624  1.00 20.62      A
ATOM    845  CD2 LEU A 108      50.493  12.458  11.316  1.00 18.40      A
ATOM    846  C   LEU A 108      53.445  13.538  11.252  1.00 19.49      A
ATOM    847  O   LEU A 108      53.841  13.892  10.144  1.00 20.39      A
ATOM    848  N   VAL A 109      53.760  12.368  11.789  1.00 18.45      A
ATOM    849  CA  VAL A 109      54.586  11.398  11.087  1.00 19.04      A
ATOM    850  CB  VAL A 109      55.665  10.805  12.042  1.00 18.71      A
ATOM    851  CG1 VAL A 109      56.626   9.923  11.279  1.00 15.16      A
ATOM    852  CG2 VAL A 109      56.431  11.949  12.729  1.00 17.68      A
ATOM    853  C   VAL A 109      53.611  10.322  10.606  1.00 20.50      A
ATOM    854  O   VAL A 109      53.115   9.516  11.393  1.00 21.55      A
ATOM    855  N   ASP A 110      53.326  10.337   9.308  1.00 21.50      A
ATOM    856  CA  ASP A 110      52.376   9.407   8.700  1.00 21.95      A
ATOM    857  CB  ASP A 110      51.493  10.165   7.701  1.00 22.25      A
ATOM    858  CG  ASP A 110      50.084   9.612   7.622  1.00 24.20      A
ATOM    859  OD1 ASP A 110      49.874   8.435   7.989  1.00 23.87      A
ATOM    860  OD2 ASP A 110      49.182  10.356   7.182  1.00 25.94      A
ATOM    861  C   ASP A 110      53.059   8.240   7.985  1.00 21.53      A
ATOM    862  O   ASP A 110      54.273   8.254   7.782  1.00 18.80      A
ATOM    863  N   ASN A 111      52.254   7.245   7.603  1.00 23.78      A
ATOM    864  CA  ASN A 111      52.706   6.037   6.900  1.00 23.32      A
ATOM    865  CB  ASN A 111      53.046   6.360   5.437  1.00 24.67      A
ATOM    866  CG  ASN A 111      53.181   5.102   4.575  1.00 31.76      A
ATOM    867  OD1 ASN A 111      52.291   4.240   4.567  1.00 31.05      A
ATOM    868  ND2 ASN A 111      54.292   4.994   3.842  1.00 29.09      A
ATOM    869  C   ASN A 111      53.905   5.389   7.587  1.00 23.68      A
ATOM    870  O   ASN A 111      54.953   5.156   6.976  1.00 22.88      A
ATOM    871  N   ILE A 112      53.738   5.090   8.868  1.00 22.97      A
ATOM    872  CA  ILE A 112      54.797   4.473   9.646  1.00 20.73      A
ATOM    873  CB  ILE A 112      54.791   4.967  11.108  1.00 20.13      A
ATOM    874  CG2 ILE A 112      55.979   4.363  11.864  1.00 15.53      A
ATOM    875  CG1 ILE A 112      54.833   6.495  11.158  1.00 19.14      A
ATOM    876  CD1 ILE A 112      54.671   7.058  12.575  1.00 20.42      A
ATOM    877  C   ILE A 112      54.658   2.960   9.699  1.00 22.54      A
ATOM    878  O   ILE A 112      53.605   2.436  10.054  1.00 22.65      A
ATOM    879  N   PHE A 113      55.732   2.266   9.343  1.00 21.37      A
ATOM    880  CA  PHE A 113      55.769   0.819   9.412  1.00 21.74      A
ATOM    881  CB  PHE A 113      54.742   0.167   8.483  1.00 21.64      A
ATOM    882  CG  PHE A 113      54.451  -1.252   8.850  1.00 21.22      A
ATOM    883  CD1 PHE A 113      53.528  -1.543   9.856  1.00 20.25      A
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ATOM    884  CD2 PHE A 113      55.183  -2.296   8.285  1.00 20.76      A
ATOM    885  CE1 PHE A 113      53.341  -2.848  10.302  1.00 19.85      A
ATOM    886  CE2 PHE A 113      55.008  -3.607   8.721  1.00 20.75      A
ATOM    887  CZ  PHE A 113      54.086  -3.887   9.735  1.00 21.24      A
ATOM    888  C   PHE A 113      57.157   0.329   9.042  1.00 21.21      A
ATOM    889  O   PHE A 113      57.700   0.719   8.011  1.00 19.97      A
ATOM    890  N   PRO A 114      57.765  -0.509   9.893  1.00 22.22      A
ATOM    891  CD  PRO A 114      59.118  -1.018   9.614  1.00 22.88      A
ATOM    892  CA  PRO A 114      57.263  -1.040  11.170  1.00 23.38      A
ATOM    893  CB  PRO A 114      58.340  -2.045  11.571  1.00 23.68      A
ATOM    894  CG  PRO A 114      59.592  -1.435  10.984  1.00 23.26      A
ATOM    895  C   PRO A 114      57.078   0.059  12.221  1.00 24.33      A
ATOM    896  O   PRO A 114      57.571   1.174  12.054  1.00 24.35      A
ATOM    897  N   PRO A 115      56.363  -0.247  13.319  1.00 24.59      A
ATOM    898  CD  PRO A 115      55.579  -1.472  13.567  1.00 22.60      A
ATOM    899  CA  PRO A 115      56.135   0.751  14.372  1.00 23.79      A
ATOM    900  CB  PRO A 115      54.923   0.194  15.107  1.00 23.96      A
ATOM    901  CG  PRO A 115      55.129  -1.291  14.998  1.00 23.45      A
ATOM    902  C   PRO A 115      57.337   0.996  15.289  1.00 24.97      A
ATOM    903  O   PRO A 115      57.322   0.670  16.482  1.00 23.11      A
ATOM    904  N   VAL A 116      58.380   1.573  14.705  1.00 24.77      A
ATOM    905  CA  VAL A 116      59.607   1.902  15.423  1.00 24.05      A
ATOM    906  CB  VAL A 116      60.733   0.881  15.135  1.00 26.45      A
ATOM    907  CG1 VAL A 116      61.977   1.250  15.933  1.00 24.89      A
ATOM    908  CG2 VAL A 116      60.267  -0.539  15.470  1.00 26.43      A
ATOM    909  C   VAL A 116      60.043   3.254  14.875  1.00 24.47      A
ATOM    910  O   VAL A 116      60.340   3.381  13.684  1.00 23.94      A
ATOM    911  N   VAL A 117      60.088   4.269  15.728  1.00 22.43      A
ATOM    912  CA  VAL A 117      60.472   5.577  15.239  1.00 22.18      A
ATOM    913  CB  VAL A 117      59.247   6.277  14.565  1.00 21.24      A
ATOM    914  CG1 VAL A 117      58.276   6.807  15.631  1.00 17.87      A
ATOM    915  CG2 VAL A 117      59.710   7.387  13.653  1.00 19.98      A
ATOM    916  C   VAL A 117      61.035   6.484  16.326  1.00 23.40      A
ATOM    917  O   VAL A 117      60.743   6.323  17.512  1.00 22.77      A
ATOM    918  N   ASN A 118      61.868   7.427  15.909  1.00 24.87      A
ATOM    919  CA  ASN A 118      62.434   8.398  16.833  1.00 25.96      A
ATOM    920  CB  ASN A 118      63.970   8.341  16.858  1.00 29.36      A
ATOM    921  CG  ASN A 118      64.506   7.213  17.728  1.00 31.24      A
ATOM    922  OD1 ASN A 118      63.885   6.833  18.722  1.00 34.20      A
ATOM    923  ND2 ASN A 118      65.679   6.694  17.374  1.00 34.04      A
ATOM    924  C   ASN A 118      61.989   9.746  16.312  1.00 24.87      A
ATOM    925  O   ASN A 118      62.298  10.112  15.177  1.00 26.17      A
ATOM    926  N   ILE A 119      61.229  10.468  17.122  1.00 23.82      A
ATOM    927  CA  ILE A 119      60.774  11.793  16.727  1.00 23.07      A
ATOM    928  CB  ILE A 119      59.231  11.892  16.711  1.00 22.65      A
ATOM    929  CG2 ILE A 119      58.797  13.197  16.051  1.00 18.01      A
ATOM    930  CG1 ILE A 119      58.642  10.716  15.936  1.00 21.02      A
ATOM    931  CD1 ILE A 119      57.135  10.714  15.921  1.00 21.88      A
ATOM    932  C   ILE A 119      61.323  12.771  17.754  1.00 22.76      A
ATOM    933  O   ILE A 119      61.013  12.680  18.940  1.00 22.92      A
ATOM    934  N   THR A 120      62.162  13.691  17.303  1.00 23.11      A
ATOM    935  CA  THR A 120      62.737  14.673  18.205  1.00 23.65      A
ATOM    936  CB  THR A 120      64.216  14.363  18.495  1.00 25.23      A
ATOM    937  OG1 THR A 120      64.921  14.199  17.258  1.00 26.55      A
ATOM    938  CG2 THR A 120      64.335  13.081  19.331  1.00 23.93      A
ATOM    939  C   THR A 120      62.622  16.064  17.616  1.00 23.20      A
ATOM    940  O   THR A 120      62.437  16.232  16.412  1.00 23.15      A
ATOM    941  N   TRP A 121      62.725  17.069  18.470  1.00 22.54      A
ATOM    942  CA  TRP A 121      62.619  18.432  17.998  1.00 21.37      A
ATOM    943  CB  TRP A 121      61.563  19.196  18.791  1.00 19.43      A
ATOM    944  CG  TRP A 121      60.173  18.679  18.616  1.00 18.76      A
ATOM    945  CD2 TRP A 121      59.191  19.179  17.703  1.00 19.96      A
ATOM    946  CE2 TRP A 121      58.002  18.454  17.931  1.00 18.06      A
ATOM    947  CE3 TRP A 121      59.200  20.178  16.715  1.00 16.07      A
ATOM    948  CD1 TRP A 121      59.567  17.694  19.330  1.00 18.18      A
ATOM    949  NE1 TRP A 121      58.261  17.553  18.929  1.00 19.21      A
ATOM    950  CZ2 TRP A 121      56.827  18.694  17.210  1.00 16.20      A
ATOM    951  CZ3 TRP A 121      58.036  20.419  16.000  1.00 16.43      A
ATOM    952  CH2 TRP A 121      56.864  19.679  16.252  1.00 17.37      A
ATOM    953  C   TRP A 121      63.927  19.178  18.097  1.00 22.88      A
ATOM    954  O   TRP A 121      64.743  18.937  18.992  1.00 22.75      A
ATOM    955  N   LEU A 122      64.109  20.100  17.164  1.00 23.24      A
ATOM    956  CA  LEU A 122      65.291  20.930  17.136  1.00 22.66      A
ATOM    957  CB  LEU A 122      66.094  20.699  15.850  1.00 23.05      A
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ATOM    958  CG  LEU A 122      66.638  19.293  15.563  1.00 22.23      A
ATOM    959  CD1 LEU A 122      67.404  19.326  14.253  1.00 20.93      A
ATOM    960  CD2 LEU A 122      67.542  18.830  16.700  1.00 20.21      A
ATOM    961  C   LEU A 122      64.837  22.376  17.186  1.00 23.52      A
ATOM    962  O   LEU A 122      63.830  22.752  16.572  1.00 21.74      A
ATOM    963  N   SER A 123      65.579  23.174  17.945  1.00 23.69      A
ATOM    964  CA  SER A 123      65.330  24.597  18.063  1.00 24.10      A
ATOM    965  CB  SER A 123      64.998  24.983  19.504  1.00 25.22      A
ATOM    966  OG  SER A 123      64.735  26.373  19.591  1.00 25.55      A
ATOM    967  C   SER A 123      66.664  25.200  17.650  1.00 24.79      A
ATOM    968  O   SER A 123      67.670  25.014  18.335  1.00 23.07      A
ATOM    969  N   ASN A 124      66.666  25.903  16.521  1.00 25.02      A
ATOM    970  CA  ASN A 124      67.880  26.513  15.986  1.00 25.63      A
ATOM    971  CB  ASN A 124      68.351  27.676  16.868  1.00 24.46      A
ATOM    972  CG  ASN A 124      67.376  28.839  16.873  1.00 25.33      A
ATOM    973  OD1 ASN A 124      66.636  29.056  15.907  1.00 26.04      A
ATOM    974  ND2 ASN A 124      67.381  29.606  17.956  1.00 21.77      A
ATOM    975  C   ASN A 124      69.006  25.487  15.838  1.00 26.53      A
ATOM    976  O   ASN A 124      70.132  25.706  16.301  1.00 26.36      A
ATOM    977  N   GLY A 125      68.684  24.361  15.205  1.00 24.78      A
ATOM    978  CA  GLY A 125      69.669  23.326  14.964  1.00 26.09      A
ATOM    979  C   GLY A 125      70.030  22.377  16.089  1.00 27.35      A
ATOM    980  O   GLY A 125      70.728  21.395  15.846  1.00 28.21      A
ATOM    981  N   HIS A 126      69.566  22.645  17.307  1.00 28.65      A
ATOM    982  CA  HIS A 126      69.889  21.774  18.430  1.00 30.12      A
ATOM    983  CB  HIS A 126      70.816  22.507  19.408  1.00 32.68      A
ATOM    984  CG  HIS A 126      70.226  23.750  19.996  1.00 35.25      A
ATOM    985  CD2 HIS A 126      70.296  25.044  19.601  1.00 36.90      A
ATOM    986  ND1 HIS A 126      69.475  23.743  21.151  1.00 35.93      A
ATOM    987  CE1 HIS A 126      69.110  24.979  21.445  1.00 36.88      A
ATOM    988  NE2 HIS A 126      69.595  25.788  20.520  1.00 36.73      A
ATOM    989  C   HIS A 126      68.661  21.220  19.149  1.00 30.87      A
ATOM    990  O   HIS A 126      67.634  21.889  19.270  1.00 31.49      A
ATOM    991  N   SER A 127      68.789  19.990  19.635  1.00 30.93      A
ATOM    992  CA  SER A 127      67.697  19.286  20.302  1.00 33.08      A
ATOM    993  CB  SER A 127      68.165  17.889  20.714  1.00 33.91      A
ATOM    994  OG  SER A 127      69.231  17.979  21.645  1.00 38.34      A
ATOM    995  C   SER A 127      67.050  19.971  21.501  1.00 32.98      A
ATOM    996  O   SER A 127      67.708  20.654  22.288  1.00 34.83      A
ATOM    997  N   VAL A 128      65.743  19.770  21.624  1.00 32.42      A
ATOM    998  CA  VAL A 128      64.960  20.325  22.716  1.00 31.29      A
ATOM    999  CB  VAL A 128      63.645  20.921  22.202  1.00 30.48      A
ATOM   1000  CG1 VAL A 128      62.856  21.520  23.358  1.00 27.06      A
ATOM   1001  CG2 VAL A 128      63.937  21.970  21.142  1.00 28.52      A
ATOM   1002  C   VAL A 128      64.645  19.183  23.669  1.00 32.28      A
ATOM   1003  O   VAL A 128      64.275  18.093  23.237  1.00 32.80      A
ATOM   1004  N   THR A 129      64.786  19.437  24.965  1.00 33.30      A
ATOM   1005  CA  THR A 129      64.546  18.411  25.981  1.00 33.70      A
ATOM   1006  CB  THR A 129      65.740  18.344  26.966  1.00 34.52      A
ATOM   1007  OG1 THR A 129      65.969  19.643  27.528  1.00 38.18      A
ATOM   1008  CG2 THR A 129      67.006  17.898  26.245  1.00 34.60      A
ATOM   1009  C   THR A 129      63.257  18.591  26.791  1.00 32.08      A
ATOM   1010  O   THR A 129      62.645  17.615  27.220  1.00 34.04      A
ATOM   1011  N   GLU A 130      62.843  19.835  26.993  1.00 28.85      A
ATOM   1012  CA  GLU A 130      61.639  20.119  27.762  1.00 26.09      A
ATOM   1013  CB  GLU A 130      61.926  21.236  28.770  1.00 28.58      A
ATOM   1014  CG  GLU A 130      62.962  20.894  29.822  1.00 32.87      A
ATOM   1015  CD  GLU A 130      62.592  19.654  30.609  1.00 35.34      A
ATOM   1016  OE1 GLU A 130      61.392  19.475  30.907  1.00 37.85      A
ATOM   1017  OE2 GLU A 130      63.501  18.865  30.941  1.00 36.29      A
ATOM   1018  C   GLU A 130      60.451  20.534  26.893  1.00 23.53      A
ATOM   1019  O   GLU A 130      60.629  21.166  25.859  1.00 19.76      A
ATOM   1020  N   GLY A 131      59.243  20.188  27.334  1.00 21.13      A
ATOM   1021  CA  GLY A 131      58.046  20.563  26.601  1.00 20.14      A
ATOM   1022  C   GLY A 131      57.693  19.684  25.421  1.00 20.64      A
ATOM   1023  O   GLY A 131      56.989  20.109  24.507  1.00 20.11      A
ATOM   1024  N   VAL A 132      58.164  18.447  25.444  1.00 18.28      A
ATOM   1025  CA  VAL A 132      57.899  17.527  24.355  1.00 20.08      A
ATOM   1026  CB  VAL A 132      59.230  16.985  23.767  1.00 20.35      A
ATOM   1027  CG1 VAL A 132      58.946  15.874  22.772  1.00 22.11      A
ATOM   1028  CG2 VAL A 132      60.006  18.114  23.093  1.00 20.17      A
ATOM   1029  C   VAL A 132      57.027  16.340  24.786  1.00 20.06      A
ATOM   1030  O   VAL A 132      57.194  15.794  25.875  1.00 18.65      A
ATOM   1031  N   SER A 133      56.094  15.948  23.925  1.00 17.90      A
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ATOM   1032  CA  SER A 133      55.238  14.802  24.215  1.00 18.16      A
ATOM   1033  CB  SER A 133      54.045  15.206  25.094  1.00 18.24      A
ATOM   1034  OG  SER A 133      53.202  16.143  24.440  1.00 24.24      A
ATOM   1035  C   SER A 133      54.738  14.200  22.914  1.00 16.52      A
ATOM   1036  O   SER A 133      54.876  14.794  21.843  1.00 16.18      A
ATOM   1037  N   GLU A 134      54.166  13.009  22.996  1.00 17.45      A
ATOM   1038  CA  GLU A 134      53.653  12.369  21.800  1.00 18.50      A
ATOM   1039  CB  GLU A 134      54.797  11.661  21.050  1.00 22.31      A
ATOM   1040  CG  GLU A 134      55.475  10.513  21.801  1.00 24.62      A
ATOM   1041  CD  GLU A 134      56.610   9.859  20.992  1.00 28.65      A
ATOM   1042  OE1 GLU A 134      56.932   8.680  21.254  1.00 29.58      A
ATOM   1043  OE2 GLU A 134      57.188  10.521  20.099  1.00 27.96      A
ATOM   1044  C   GLU A 134      52.523  11.389  22.087  1.00 18.44      A
ATOM   1045  O   GLU A 134      52.279  11.003  23.234  1.00 17.30      A
ATOM   1046  N   THR A 135      51.824  11.008  21.027  1.00 16.71      A
ATOM   1047  CA  THR A 135      50.733  10.059  21.119  1.00 15.49      A
ATOM   1048  CB  THR A 135      49.738  10.246  19.967  1.00 16.16      A
ATOM   1049  OG1 THR A 135      50.369   9.867  18.731  1.00 16.02      A
ATOM   1050  CG2 THR A 135      49.280  11.697  19.879  1.00 14.19      A
ATOM   1051  C   THR A 135      51.346   8.682  20.946  1.00 17.19      A
ATOM   1052  O   THR A 135      52.551   8.554  20.733  1.00 17.26      A
ATOM   1053  N   SER A 136      50.519   7.650  21.047  1.00 17.53      A
ATOM   1054  CA  SER A 136      51.001   6.297  20.818  1.00 15.92      A
ATOM   1055  CB  SER A 136      50.035   5.266  21.416  1.00 16.85      A
ATOM   1056  OG  SER A 136      49.756   5.532  22.781  1.00 18.22      A
ATOM   1057  C   SER A 136      50.967   6.187  19.294  1.00 15.84      A
ATOM   1058  O   SER A 136      50.715   7.169  18.596  1.00 17.25      A
ATOM   1059  N   PHE A 137      51.236   5.003  18.767  1.00 17.08      A
ATOM   1060  CA  PHE A 137      51.155   4.806  17.333  1.00 15.67      A
ATOM   1061  CB  PHE A 137      51.874   3.519  16.936  1.00 13.47      A
ATOM   1062  CG  PHE A 137      53.363   3.628  16.951  1.00 14.48      A
ATOM   1063  CD1 PHE A 137      54.037   4.255  15.907  1.00 15.82      A
ATOM   1064  CD2 PHE A 137      54.100   3.112  18.010  1.00 15.21      A
ATOM   1065  CE1 PHE A 137      55.427   4.367  15.918  1.00 15.72      A
ATOM   1066  CE2 PHE A 137      55.490   3.220  18.031  1.00 15.14      A
ATOM   1067  CZ  PHE A 137      56.152   3.848  16.983  1.00 14.35      A
ATOM   1068  C   PHE A 137      49.659   4.657  17.067  1.00 16.21      A
ATOM   1069  O   PHE A 137      49.037   3.767  17.622  1.00 18.05      A
ATOM   1070  N   LEU A 138      49.074   5.534  16.259  1.00 17.51      A
ATOM   1071  CA  LEU A 138      47.648   5.433  15.953  1.00 19.20      A
ATOM   1072  CB  LEU A 138      47.017   6.822  15.800  1.00 20.80      A
ATOM   1073  CG  LEU A 138      46.809   7.688  17.044  1.00 23.47      A
ATOM   1074  CD1 LEU A 138      46.141   6.879  18.144  1.00 24.75      A
ATOM   1075  CD2 LEU A 138      48.140   8.212  17.529  1.00 27.62      A
ATOM   1076  C   LEU A 138      47.490   4.637  14.658  1.00 18.41      A
ATOM   1077  O   LEU A 138      48.218   4.862  13.698  1.00 16.16      A
ATOM   1078  N   SER A 139      46.530   3.716  14.630  1.00 18.51      A
ATOM   1079  CA  SER A 139      46.333   2.863  13.460  1.00 17.61      A
ATOM   1080  CB  SER A 139      45.481   1.656  13.836  1.00 18.17      A
ATOM   1081  OG  SER A 139      44.134   2.036  14.040  1.00 20.80      A
ATOM   1082  C   SER A 139      45.729   3.510  12.216  1.00 17.44      A
ATOM   1083  O   SER A 139      45.122   4.578  12.276  1.00 16.41      A
ATOM   1084  N   LYS A 140      45.908   2.822  11.088  1.00 18.56      A
ATOM   1085  CA  LYS A 140      45.402   3.237   9.778  1.00 18.37      A
ATOM   1086  CB  LYS A 140      46.543   3.751   8.895  1.00 21.60      A
ATOM   1087  CG  LYS A 140      47.149   5.085   9.326  1.00 24.86      A
ATOM   1088  CD  LYS A 140      46.513   6.267   8.602  1.00 30.27      A
ATOM   1089  CE  LYS A 140      46.961   6.345   7.150  1.00 29.93      A
ATOM   1090  NZ  LYS A 140      48.440   6.349   7.038  1.00 30.14      A
ATOM   1091  C   LYS A 140      44.773   2.012   9.118  1.00 17.79      A
ATOM   1092  O   LYS A 140      45.106   0.878   9.458  1.00 17.76      A
ATOM   1093  N   SER A 141      43.882   2.234   8.160  1.00 18.54      A
ATOM   1094  CA  SER A 141      43.220   1.124   7.481  1.00 21.55      A
ATOM   1095  CB  SER A 141      42.047   1.634   6.630  1.00 21.05      A
ATOM   1096  OG  SER A 141      42.490   2.482   5.588  1.00 28.41      A
ATOM   1097  C   SER A 141      44.154   0.263   6.625  1.00 21.42      A
ATOM   1098  O   SER A 141      43.828  -0.885   6.332  1.00 21.49      A
ATOM   1099  N   ASP A 142      45.311   0.793   6.226  1.00 20.12      A
ATOM   1100  CA  ASP A 142      46.234  -0.016   5.430  1.00 19.88      A
ATOM   1101  CB  ASP A 142      47.008   0.843   4.420  1.00 22.82      A
ATOM   1102  CG  ASP A 142      47.949   1.834   5.076  1.00 24.81      A
ATOM   1103  OD1 ASP A 142      47.837   2.061   6.298  1.00 25.33      A
ATOM   1104  OD2 ASP A 142      48.799   2.395   4.354  1.00 28.43      A
ATOM   1105  C   ASP A 142      47.176  -0.752   6.368  1.00 20.11      A
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ATOM   1106  O   ASP A 142      48.127  -1.416   5.946  1.00 19.21      A
ATOM   1107  N   HIS A 143      46.885  -0.626   7.659  1.00 18.99      A
ATOM   1108  CA  HIS A 143      47.637  -1.295   8.706  1.00 17.27      A
ATOM   1109  CB  HIS A 143      47.686  -2.792   8.409  1.00 16.45      A
ATOM   1110  CG  HIS A 143      46.329  -3.396   8.190  1.00 18.33      A
ATOM   1111  CD2 HIS A 143      45.860  -4.211   7.213  1.00 17.59      A
ATOM   1112  ND1 HIS A 143      45.262  -3.151   9.032  1.00 15.97      A
ATOM   1113  CE1 HIS A 143      44.194  -3.786   8.580  1.00 19.46      A
ATOM   1114  NE2 HIS A 143      44.529  -4.436   7.478  1.00 18.06      A
ATOM   1115  C   HIS A 143      49.019  -0.749   9.030  1.00 19.46      A
ATOM   1116  O   HIS A 143      49.812  -1.401   9.715  1.00 19.95      A
ATOM   1117  N   SER A 144      49.301   0.454   8.536  1.00 19.70      A
ATOM   1118  CA  SER A 144      50.542   1.141   8.852  1.00 20.18      A
ATOM   1119  CB  SER A 144      51.018   2.011   7.678  1.00 19.91      A
ATOM   1120  OG  SER A 144      50.099   3.044   7.364  1.00 23.64      A
ATOM   1121  C   SER A 144      50.109   2.018  10.034  1.00 19.40      A
ATOM   1122  O   SER A 144      48.970   1.906  10.499  1.00 19.70      A
ATOM   1123  N   PHE A 145      50.986   2.883  10.525  1.00 16.99      A
ATOM   1124  CA  PHE A 145      50.614   3.728  11.649  1.00 16.06      A
ATOM   1125  CB  PHE A 145      51.325   3.274  12.929  1.00 16.25      A
ATOM   1126  CG  PHE A 145      51.062   1.841  13.297  1.00 19.53      A
ATOM   1127  CD1 PHE A 145      51.754   0.807  12.672  1.00 20.17      A
ATOM   1128  CD2 PHE A 145      50.114   1.522  14.263  1.00 18.18      A
ATOM   1129  CE1 PHE A 145      51.505  -0.525  13.005  1.00 21.33      A
ATOM   1130  CE2 PHE A 145      49.856   0.193  14.606  1.00 19.50      A
ATOM   1131  CZ  PHE A 145      50.553  -0.831  13.975  1.00 20.23      A
ATOM   1132  C   PHE A 145      50.955   5.182  11.419  1.00 15.69      A
ATOM   1133  O   PHE A 145      51.548   5.538  10.404  1.00 16.69      A
ATOM   1134  N   PHE A 146      50.530   6.021  12.357  1.00 14.53      A
ATOM   1135  CA  PHE A 146      50.869   7.429  12.332  1.00 16.67      A
ATOM   1136  CB  PHE A 146      49.841   8.279  11.552  1.00 16.59      A
ATOM   1137  CG  PHE A 146      48.535   8.528  12.259  1.00 15.25      A
ATOM   1138  CD1 PHE A 146      48.370   9.644  13.071  1.00 15.42      A
ATOM   1139  CD2 PHE A 146      47.433   7.708  12.019  1.00 16.06      A
ATOM   1140  CE1 PHE A 146      47.123   9.952  13.629  1.00 17.50      A
ATOM   1141  CE2 PHE A 146      46.180   8.003  12.571  1.00 16.80      A
ATOM   1142  CZ  PHE A 146      46.023   9.126  13.375  1.00 17.47      A
ATOM   1143  C   PHE A 146      51.017   7.841  13.783  1.00 17.00      A
ATOM   1144  O   PHE A 146      50.345   7.308  14.661  1.00 19.50      A
ATOM   1145  N   LYS A 147      51.950   8.747  14.032  1.00 17.82      A
ATOM   1146  CA  LYS A 147      52.224   9.221  15.377  1.00 18.67      A
ATOM   1147  CB  LYS A 147      53.540   8.604  15.863  1.00 20.48      A
ATOM   1148  CG  LYS A 147      53.771   8.668  17.359  1.00 25.54      A
ATOM   1149  CD  LYS A 147      54.822   7.645  17.774  1.00 29.96      A
ATOM   1150  CE  LYS A 147      54.835   7.417  19.282  1.00 30.05      A
ATOM   1151  NZ  LYS A 147      55.740   6.291  19.643  1.00 33.05      A
ATOM   1152  C   LYS A 147      52.315  10.743  15.338  1.00 17.25      A
ATOM   1153  O   LYS A 147      52.716  11.320  14.329  1.00 19.15      A
ATOM   1154  N   ILE A 148      51.932  11.391  16.428  1.00 15.47      A
ATOM   1155  CA  ILE A 148      51.969  12.846  16.494  1.00 14.99      A
ATOM   1156  CB  ILE A 148      50.529  13.424  16.642  1.00 15.37      A
ATOM   1157  CG2 ILE A 148      50.566  14.932  16.740  1.00 14.06      A
ATOM   1158  CG1 ILE A 148      49.689  13.025  15.426  1.00 16.41      A
ATOM   1159  CD1 ILE A 148      48.223  13.325  15.550  1.00 18.61      A
ATOM   1160  C   ILE A 148      52.829  13.271  17.682  1.00 17.07      A
ATOM   1161  O   ILE A 148      52.721  12.702  18.772  1.00 15.61      A
ATOM   1162  N   SER A 149      53.696  14.255  17.458  1.00 16.79      A
ATOM   1163  CA  SER A 149      54.570  14.757  18.514  1.00 17.66      A
ATOM   1164  CB  SER A 149      56.042  14.612  18.116  1.00 15.95      A
ATOM   1165  OG  SER A 149      56.900  14.956  19.190  1.00 17.31      A
ATOM   1166  C   SER A 149      54.239  16.225  18.763  1.00 18.34      A
ATOM   1167  O   SER A 149      53.854  16.949  17.842  1.00 18.33      A
ATOM   1168  N   TYR A 150      54.401  16.665  20.005  1.00 16.95      A
ATOM   1169  CA  TYR A 150      54.085  18.040  20.362  1.00 17.59      A
ATOM   1170  CB  TYR A 150      52.893  18.057  21.310  1.00 17.57      A
ATOM   1171  CG  TYR A 150      51.679  17.314  20.797  1.00 18.52      A
ATOM   1172  CD1 TYR A 150      50.879  17.851  19.789  1.00 17.12      A
ATOM   1173  CE1 TYR A 150      49.733  17.182  19.340  1.00 18.32      A
ATOM   1174  CD2 TYR A 150      51.313  16.078  21.345  1.00 18.89      A
ATOM   1175  CE2 TYR A 150      50.176  15.399  20.901  1.00 17.65      A
ATOM   1176  CZ  TYR A 150      49.391  15.957  19.900  1.00 17.92      A
ATOM   1177  OH  TYR A 150      48.275  15.285  19.457  1.00 19.69      A
ATOM   1178  C   TYR A 150      55.237  18.768  21.021  1.00 17.16      A
ATOM   1179  O   TYR A 150      55.953  18.207  21.847  1.00 19.65      A
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ATOM   1180  N   LEU A 151      55.409  20.029  20.649  1.00 17.01      A
ATOM   1181  CA  LEU A 151      56.449  20.868  21.224  1.00 15.24      A
ATOM   1182  CB  LEU A 151      57.540  21.182  20.197  1.00 16.33      A
ATOM   1183  CG  LEU A 151      58.487  22.335  20.575  1.00 16.27      A
ATOM   1184  CD1 LEU A 151      59.402  21.906  21.706  1.00 17.13      A
ATOM   1185  CD2 LEU A 151      59.315  22.755  19.359  1.00 19.34      A
ATOM   1186  C   LEU A 151      55.825  22.174  21.666  1.00 16.08      A
ATOM   1187  O   LEU A 151      55.221  22.881  20.860  1.00 16.22      A
ATOM   1188  N   THR A 152      55.952  22.497  22.945  1.00 16.84      A
ATOM   1189  CA  THR A 152      55.428  23.765  23.424  1.00 18.70      A
ATOM   1190  CB  THR A 152      55.283  23.799  24.946  1.00 20.14      A
ATOM   1191  OG1 THR A 152      56.576  23.633  25.544  1.00 23.32      A
ATOM   1192  CG2 THR A 152      54.355  22.694  25.419  1.00 18.36      A
ATOM   1193  C   THR A 152      56.498  24.772  23.050  1.00 20.04      A
ATOM   1194  O   THR A 152      57.689  24.448  23.034  1.00 20.72      A
ATOM   1195  N   LEU A 153      56.085  25.986  22.735  1.00 20.63      A
ATOM   1196  CA  LEU A 153      57.043  27.014  22.389  1.00 24.69      A
ATOM   1197  CB  LEU A 153      57.579  26.794  20.960  1.00 24.19      A
ATOM   1198  CG  LEU A 153      56.716  26.942  19.694  1.00 26.72      A
ATOM   1199  CD1 LEU A 153      55.303  26.451  19.959  1.00 27.32      A
ATOM   1200  CD2 LEU A 153      56.686  28.393  19.249  1.00 26.15      A
ATOM   1201  C   LEU A 153      56.410  28.385  22.531  1.00 26.36      A
ATOM   1202  O   LEU A 153      55.180  28.511  22.597  1.00 29.59      A
ATOM   1203  N   LEU A 154      57.262  29.401  22.620  1.00 26.29      A
ATOM   1204  CA  LEU A 154      56.830  30.787  22.729  1.00 26.89      A
ATOM   1205  CB  LEU A 154      57.459  31.444  23.965  1.00 26.94      A
ATOM   1206  CG  LEU A 154      56.966  32.833  24.407  1.00 28.58      A
ATOM   1207  CD1 LEU A 154      55.507  32.755  24.864  1.00 24.43      A
ATOM   1208  CD2 LEU A 154      57.845  33.342  25.549  1.00 27.14      A
ATOM   1209  C   LEU A 154      57.337  31.458  21.456  1.00 28.94      A
ATOM   1210  O   LEU A 154      58.538  31.689  21.304  1.00 30.73      A
ATOM   1211  N   PRO A 155      56.428  31.773  20.518  1.00 30.57      A
ATOM   1212  CD  PRO A 155      54.975  31.534  20.559  1.00 29.60      A
ATOM   1213  CA  PRO A 155      56.806  32.412  19.254  1.00 31.63      A
ATOM   1214  CB  PRO A 155      55.460  32.668  18.581  1.00 30.63      A
ATOM   1215  CG  PRO A 155      54.612  31.552  19.087  1.00 28.73      A
ATOM   1216  C   PRO A 155      57.639  33.688  19.370  1.00 33.58      A
ATOM   1217  O   PRO A 155      57.322  34.593  20.136  1.00 33.98      A
ATOM   1218  N   SER A 156      58.706  33.741  18.586  1.00 35.79      A
ATOM   1219  CA  SER A 156      59.595  34.888  18.546  1.00 37.77      A
ATOM   1220  CB  SER A 156      60.604  34.839  19.694  1.00 38.66      A
ATOM   1221  OG  SER A 156      59.955  34.966  20.949  1.00 44.00      A
ATOM   1222  C   SER A 156      60.332  34.841  17.222  1.00 38.83      A
ATOM   1223  O   SER A 156      60.257  33.849  16.492  1.00 38.36      A
ATOM   1224  N   ALA A 157      61.042  35.915  16.909  1.00 40.38      A
ATOM   1225  CA  ALA A 157      61.796  35.972  15.670  1.00 39.93      A
ATOM   1226  CB  ALA A 157      61.822  37.401  15.148  1.00 40.36      A
ATOM   1227  C   ALA A 157      63.214  35.466  15.918  1.00 39.65      A
ATOM   1228  O   ALA A 157      64.058  35.504  15.021  1.00 39.72      A
ATOM   1229  N   GLU A 158      63.463  34.984  17.135  1.00 39.12      A
ATOM   1230  CA  GLU A 158      64.784  34.480  17.517  1.00 40.24      A
ATOM   1231  CB  GLU A 158      65.082  34.808  18.988  1.00 44.21      A
ATOM   1232  CG  GLU A 158      65.426  36.268  19.287  1.00 50.31      A
ATOM   1233  CD  GLU A 158      64.204  37.174  19.356  1.00 55.36      A
ATOM   1234  OE1 GLU A 158      64.353  38.351  19.765  1.00 55.75      A
ATOM   1235  OE2 GLU A 158      63.095  36.712  19.002  1.00 58.12      A
ATOM   1236  C   GLU A 158      65.005  32.979  17.303  1.00 38.02      A
ATOM   1237  O   GLU A 158      66.130  32.493  17.419  1.00 36.30      A
ATOM   1238  N   GLU A 159      63.950  32.234  17.002  1.00 35.79      A
ATOM   1239  CA  GLU A 159      64.136  30.807  16.805  1.00 35.02      A
ATOM   1240  CB  GLU A 159      63.949  30.066  18.135  1.00 36.97      A
ATOM   1241  CG  GLU A 159      62.699  30.439  18.891  1.00 41.68      A
ATOM   1242  CD  GLU A 159      62.717  29.933  20.323  1.00 44.82      A
ATOM   1243  OE1 GLU A 159      62.819  28.705  20.527  1.00 46.62      A
ATOM   1244  OE2 GLU A 159      62.631  30.767  21.248  1.00 47.25      A
ATOM   1245  C   GLU A 159      63.277  30.162  15.735  1.00 32.21      A
ATOM   1246  O   GLU A 159      62.147  30.574  15.473  1.00 32.05      A
ATOM   1247  N   SER A 160      63.849  29.147  15.107  1.00 29.55      A
ATOM   1248  CA  SER A 160      63.167  28.394  14.076  1.00 28.89      A
ATOM   1249  CB  SER A 160      63.885  28.551  12.734  1.00 27.34      A
ATOM   1250  OG  SER A 160      65.206  28.053  12.807  1.00 29.49      A
ATOM   1251  C   SER A 160      63.241  26.957  14.565  1.00 27.42      A
ATOM   1252  O   SER A 160      64.092  26.628  15.392  1.00 25.45      A
ATOM   1253  N   TYR A 161      62.359  26.101  14.066  1.00 24.73      A
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ATOM   1254  CA  TYR A 161      62.359  24.725  14.517  1.00 24.26      A
ATOM   1255  CB  TYR A 161      61.172  24.480  15.451  1.00 23.50      A
ATOM   1256  CG  TYR A 161      60.935  25.593  16.434  1.00 24.01      A
ATOM   1257  CD1 TYR A 161      60.255  26.748  16.052  1.00 26.02      A
ATOM   1258  CE1 TYR A 161      60.009  27.774  16.959  1.00 27.93      A
ATOM   1259  CD2 TYR A 161      61.374  25.491  17.753  1.00 24.78      A
ATOM   1260  CE2 TYR A 161      61.136  26.514  18.674  1.00 25.93      A
ATOM   1261  CZ  TYR A 161      60.450  27.650  18.270  1.00 27.56      A
ATOM   1262  OH  TYR A 161      60.182  28.650  19.173  1.00 29.78      A
ATOM   1263  C   TYR A 161      62.330  23.700  13.397  1.00 25.15      A
ATOM   1264  O   TYR A 161      62.082  24.021  12.239  1.00 24.96      A
ATOM   1265  N   ASP A 162      62.600  22.455  13.775  1.00 26.26      A
ATOM   1266  CA  ASP A 162      62.598  21.331  12.858  1.00 26.94      A
ATOM   1267  CB  ASP A 162      64.007  21.014  12.356  1.00 30.11      A
ATOM   1268  CG  ASP A 162      64.548  22.067  11.434  1.00 32.85      A
ATOM   1269  OD1 ASP A 162      64.075  22.138  10.277  1.00 33.31      A
ATOM   1270  OD2 ASP A 162      65.443  22.819  11.874  1.00 33.08      A
ATOM   1271  C   ASP A 162      62.122  20.117  13.613  1.00 25.87      A
ATOM   1272  O   ASP A 162      62.449  19.947  14.789  1.00 24.38      A
ATOM   1273  N   CYS A 163      61.352  19.277  12.935  1.00 23.95      A
ATOM   1274  CA  CYS A 163      60.914  18.027  13.530  1.00 24.46      A
ATOM   1275  C   CYS A 163      61.916  17.043  12.938  1.00 22.46      A
ATOM   1276  O   CYS A 163      62.110  17.021  11.726  1.00 24.01      A
ATOM   1277  CB  CYS A 163      59.497  17.658  13.083  1.00 24.14      A
ATOM   1278  SG  CYS A 163      58.931  16.101  13.836  1.00 30.35      A
ATOM   1279  N   LYS A 164      62.571  16.259  13.782  1.00 22.96      A
ATOM   1280  CA  LYS A 164      63.559  15.292  13.307  1.00 24.69      A
ATOM   1281  CB  LYS A 164      64.867  15.450  14.089  1.00 27.54      A
ATOM   1282  CG  LYS A 164      65.977  14.490  13.689  1.00 28.93      A
ATOM   1283  CD  LYS A 164      67.179  14.643  14.622  1.00 32.03      A
ATOM   1284  CE  LYS A 164      68.254  13.596  14.350  1.00 33.85      A
ATOM   1285  NZ  LYS A 164      69.319  13.607  15.398  1.00 36.46      A
ATOM   1286  C   LYS A 164      63.023  13.875  13.463  1.00 24.25      A
ATOM   1287  O   LYS A 164      62.697  13.443  14.570  1.00 23.52      A
ATOM   1288  N   VAL A 165      62.931  13.160  12.345  1.00 23.37      A
ATOM   1289  CA  VAL A 165      62.415  11.797  12.344  1.00 24.06      A
ATOM   1290  CB  VAL A 165      61.174  11.682  11.408  1.00 23.45      A
ATOM   1291  CG1 VAL A 165      60.657  10.248  11.382  1.00 18.80      A
ATOM   1292  CG2 VAL A 165      60.078  12.632  11.878  1.00 22.37      A
ATOM   1293  C   VAL A 165      63.457  10.772  11.903  1.00 25.04      A
ATOM   1294  O   VAL A 165      64.103  10.931  10.869  1.00 25.12      A
ATOM   1295  N   GLU A 166      63.621   9.725  12.703  1.00 26.91      A
ATOM   1296  CA  GLU A 166      64.556   8.648  12.383  1.00 28.84      A
ATOM   1297  CB  GLU A 166      65.554   8.424  13.523  1.00 30.71      A
ATOM   1298  CG  GLU A 166      66.382   9.634  13.922  1.00 36.90      A
ATOM   1299  CD  GLU A 166      67.247   9.356  15.147  1.00 39.97      A
ATOM   1300  OE1 GLU A 166      67.466  10.286  15.954  1.00 43.02      A
ATOM   1301  OE2 GLU A 166      67.714   8.206  15.301  1.00 43.24      A
ATOM   1302  C   GLU A 166      63.739   7.369  12.183  1.00 28.96      A
ATOM   1303  O   GLU A 166      62.975   6.971  13.067  1.00 27.40      A
ATOM   1304  N   HIS A 167      63.910   6.728  11.029  1.00 29.87      A
ATOM   1305  CA  HIS A 167      63.189   5.496  10.713  1.00 30.70      A
ATOM   1306  CB  HIS A 167      61.838   5.833  10.084  1.00 30.90      A
ATOM   1307  CG  HIS A 167      60.932   4.655   9.933  1.00 34.01      A
ATOM   1308  CD2 HIS A 167      60.698   3.842   8.876  1.00 33.60      A
ATOM   1309  ND1 HIS A 167      60.159   4.172  10.967  1.00 36.69      A
ATOM   1310  CE1 HIS A 167      59.488   3.112  10.554  1.00 34.84      A
ATOM   1311  NE2 HIS A 167      59.798   2.890   9.290  1.00 34.90      A
ATOM   1312  C   HIS A 167      63.999   4.639   9.739  1.00 31.21      A
ATOM   1313  O   HIS A 167      64.696   5.167   8.866  1.00 29.44      A
ATOM   1314  N   TRP A 168      63.895   3.320   9.879  1.00 31.70      A
ATOM   1315  CA  TRP A 168      64.625   2.402   9.006  1.00 31.76      A
ATOM   1316  CB  TRP A 168      64.344   0.954   9.396  1.00 30.39      A
ATOM   1317  CG  TRP A 168      64.735   0.650  10.797  1.00 28.49      A
ATOM   1318  CD2 TRP A 168      64.115  -0.297  11.666  1.00 28.31      A
ATOM   1319  CE2 TRP A 168      64.837  -0.288  12.878  1.00 28.31      A
ATOM   1320  CE3 TRP A 168      63.017  -1.157  11.538  1.00 26.47      A
ATOM   1321  CD1 TRP A 168      65.778   1.184  11.491  1.00 28.32      A
ATOM   1322  NE1 TRP A 168      65.849   0.627  12.744  1.00 28.98      A
ATOM   1323  CZ2 TRP A 168      64.498  -1.107  13.958  1.00 28.85      A
ATOM   1324  CZ3 TRP A 168      62.678  -1.970  12.608  1.00 27.57      A
ATOM   1325  CH2 TRP A 168      63.418  -1.940  13.805  1.00 29.20      A
ATOM   1326  C   TRP A 168      64.332   2.588   7.523  1.00 33.06      A
ATOM   1327  O   TRP A 168      65.190   2.314   6.682  1.00 32.28      A
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ATOM	1328	N	GLY	A	169	63.126	3.049	7.202	1.00	34.81	A
ATOM	1329	CA	GLY	A	169	62.760	3.263	5.810	1.00	35.23	A
ATOM	1330	C	GLY	A	169	63.267	4.588	5.266	1.00	37.25	A
ATOM	1331	O	GLY	A	169	62.907	4.992	4.162	1.00	37.65	A
ATOM	1332	N	LEU	A	170	64.100	5.268	6.049	1.00	39.27	A
ATOM	1333	CA	LEU	A	170	64.673	6.555	5.660	1.00	41.10	A
ATOM	1334	CB	LEU	A	170	64.354	7.626	6.706	1.00	38.47	A
ATOM	1335	CG	LEU	A	170	62.923	8.143	6.843	1.00	38.66	A
ATOM	1336	CD1	LEU	A	170	62.790	8.919	8.142	1.00	37.48	A
ATOM	1337	CD2	LEU	A	170	62.572	9.017	5.653	1.00	37.65	A
ATOM	1338	C	LEU	A	170	66.183	6.425	5.556	1.00	43.62	A
ATOM	1339	O	LEU	A	170	66.809	5.762	6.382	1.00	44.45	A
ATOM	1340	N	ASP	A	171	66.764	7.066	4.545	1.00	46.98	A
ATOM	1341	CA	ASP	A	171	68.211	7.036	4.350	1.00	48.99	A
ATOM	1342	CB	ASP	A	171	68.602	7.810	3.086	1.00	51.12	A
ATOM	1343	CG	ASP	A	171	67.735	7.466	1.895	1.00	53.30	A
ATOM	1344	OD1	ASP	A	171	66.520	7.761	1.936	1.00	54.82	A
ATOM	1345	OD2	ASP	A	171	68.271	6.903	0.917	1.00	54.86	A
ATOM	1346	C	ASP	A	171	68.836	7.726	5.554	1.00	48.82	A
ATOM	1347	O	ASP	A	171	69.437	7.093	6.420	1.00	48.88	A
ATOM	1348	N	LYS	A	172	68.673	9.044	5.585	1.00	48.96	A
ATOM	1349	CA	LYS	A	172	69.192	9.877	6.659	1.00	48.79	A
ATOM	1350	CB	LYS	A	172	69.986	11.059	6.084	1.00	51.32	A
ATOM	1351	CG	LYS	A	172	71.074	10.698	5.075	1.00	55.53	A
ATOM	1352	CD	LYS	A	172	71.799	11.952	4.571	1.00	57.81	A
ATOM	1353	CE	LYS	A	172	72.859	11.621	3.518	1.00	59.22	A
ATOM	1354	NZ	LYS	A	172	73.912	10.702	4.038	1.00	58.32	A
ATOM	1355	C	LYS	A	172	67.990	10.419	7.420	1.00	46.36	A
ATOM	1356	O	LYS	A	172	66.862	10.381	6.919	1.00	44.39	A
ATOM	1357	N	PRO	A	173	68.211	10.920	8.645	1.00	44.20	A
ATOM	1358	CD	PRO	A	173	69.432	10.866	9.469	1.00	44.15	A
ATOM	1359	CA	PRO	A	173	67.089	11.462	9.410	1.00	42.74	A
ATOM	1360	CB	PRO	A	173	67.768	12.050	10.637	1.00	42.02	A
ATOM	1361	CG	PRO	A	173	68.887	11.080	10.872	1.00	44.25	A
ATOM	1362	C	PRO	A	173	66.369	12.517	8.578	1.00	41.09	A
ATOM	1363	O	PRO	A	173	67.002	13.309	7.877	1.00	39.67	A
ATOM	1364	N	LEU	A	174	65.044	12.502	8.636	1.00	39.80	A
ATOM	1365	CA	LEU	A	174	64.241	13.457	7.888	1.00	38.58	A
ATOM	1366	CB	LEU	A	174	62.894	12.838	7.522	1.00	38.73	A
ATOM	1367	CG	LEU	A	174	62.202	13.329	6.251	1.00	39.18	A
ATOM	1368	CD1	LEU	A	174	60.826	12.691	6.170	1.00	39.20	A
ATOM	1369	CD2	LEU	A	174	62.093	14.836	6.245	1.00	40.87	A
ATOM	1370	C	LEU	A	174	64.019	14.662	8.785	1.00	37.43	A
ATOM	1371	O	LEU	A	174	63.630	14.514	9.943	1.00	37.68	A
ATOM	1372	N	LEU	A	175	64.284	15.849	8.255	1.00	35.85	A
ATOM	1373	CA	LEU	A	175	64.098	17.077	9.012	1.00	34.38	A
ATOM	1374	CB	LEU	A	175	65.400	17.882	9.074	1.00	33.21	A
ATOM	1375	CG	LEU	A	175	66.425	17.502	10.147	1.00	34.82	A
ATOM	1376	CD1	LEU	A	175	65.838	17.768	11.526	1.00	34.32	A
ATOM	1377	CD2	LEU	A	175	66.819	16.038	10.008	1.00	35.37	A
ATOM	1378	C	LEU	A	175	63.020	17.898	8.337	1.00	33.09	A
ATOM	1379	O	LEU	A	175	63.080	18.137	7.132	1.00	33.84	A
ATOM	1380	N	LYS	A	176	62.023	18.312	9.108	1.00	30.14	A
ATOM	1381	CA	LYS	A	176	60.943	19.119	8.566	1.00	30.03	A
ATOM	1382	CB	LYS	A	176	59.598	18.416	8.772	1.00	30.60	A
ATOM	1383	CG	LYS	A	176	58.463	19.049	8.010	1.00	33.60	A
ATOM	1384	CD	LYS	A	176	58.742	19.054	6.508	1.00	37.73	A
ATOM	1385	CE	LYS	A	176	58.869	17.642	5.960	1.00	37.37	A
ATOM	1386	NZ	LYS	A	176	59.075	17.629	4.484	1.00	41.15	A
ATOM	1387	C	LYS	A	176	60.976	20.457	9.292	1.00	28.62	A
ATOM	1388	O	LYS	A	176	60.764	20.524	10.501	1.00	27.68	A
ATOM	1389	N	HIS	A	177	61.238	21.520	8.539	1.00	28.72	A
ATOM	1390	CA	HIS	A	177	61.353	22.868	9.088	1.00	29.54	A
ATOM	1391	CB	HIS	A	177	62.284	23.691	8.195	1.00	29.51	A
ATOM	1392	CG	HIS	A	177	62.485	25.097	8.663	1.00	30.53	A
ATOM	1393	CD2	HIS	A	177	62.124	26.282	8.114	1.00	31.99	A
ATOM	1394	ND1	HIS	A	177	63.117	25.401	9.849	1.00	32.09	A
ATOM	1395	CE1	HIS	A	177	63.138	26.713	10.010	1.00	32.65	A
ATOM	1396	NE2	HIS	A	177	62.542	27.271	8.971	1.00	32.04	A
ATOM	1397	C	HIS	A	177	60.059	23.654	9.304	1.00	29.24	A
ATOM	1398	O	HIS	A	177	59.100	23.519	8.549	1.00	27.66	A
ATOM	1399	N	TRP	A	178	60.062	24.492	10.340	1.00	30.09	A
ATOM	1400	CA	TRP	A	178	58.926	25.350	10.674	1.00	33.43	A
ATOM	1401	CB	TRP	A	178	57.959	24.647	11.632	1.00	28.07	A

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ATOM   1402  CG  TRP A 178      56.681  25.422  11.851  1.00 25.25      A
ATOM   1403  CD2 TRP A 178      56.476  26.518  12.761  1.00 21.68      A
ATOM   1404  CE2 TRP A 178      55.138  26.942  12.611  1.00 20.86      A
ATOM   1405  CE3 TRP A 178      57.292  27.178  13.688  1.00 20.72      A
ATOM   1406  CD1 TRP A 178      55.489  25.239  11.206  1.00 24.81      A
ATOM   1407  NE1 TRP A 178      54.559  26.146  11.657  1.00 21.51      A
ATOM   1408  CZ2 TRP A 178      54.598  27.999  13.354  1.00 21.11      A
ATOM   1409  CZ3 TRP A 178      56.754  28.229  14.428  1.00 21.58      A
ATOM   1410  CH2 TRP A 178      55.419  28.627  14.255  1.00 20.94      A
ATOM   1411  C   TRP A 178      59.425  26.628  11.348  1.00 36.30      A
ATOM   1412  O   TRP A 178      60.314  26.591  12.195  1.00 36.91      A
ATOM   1413  N   GLU A 179      58.852  27.761  10.975  1.00 40.65      A
ATOM   1414  CA  GLU A 179      59.240  29.029  11.587  1.00 45.62      A
ATOM   1415  CB  GLU A 179      60.481  29.622  10.899  1.00 47.42      A
ATOM   1416  CG  GLU A 179      60.323  29.868   9.404  1.00 52.77      A
ATOM   1417  CD  GLU A 179      61.498  30.624   8.806  1.00 55.17      A
ATOM   1418  OE1 GLU A 179      62.653  30.179   8.987  1.00 57.20      A
ATOM   1419  OE2 GLU A 179      61.265  31.663   8.149  1.00 57.21      A
ATOM   1420  C   GLU A 179      58.074  30.001  11.489  1.00 46.47      A
ATOM   1421  O   GLU A 179      57.322  29.983  10.513  1.00 45.49      A
ATOM   1422  N   PRO A 180      57.898  30.855  12.509  1.00 47.97      A
ATOM   1423  CD  PRO A 180      58.679  31.008  13.752  1.00 48.35      A
ATOM   1424  CA  PRO A 180      56.789  31.810  12.460  1.00 49.45      A
ATOM   1425  CB  PRO A 180      56.763  32.372  13.880  1.00 49.39      A
ATOM   1426  CG  PRO A 180      58.214  32.358  14.266  1.00 48.65      A
ATOM   1427  C   PRO A 180      57.014  32.891  11.401  1.00 50.21      A
ATOM   1428  O   PRO A 180      58.174  33.041  10.950  1.00 49.95      A
ATOM   1429  OXT PRO A 180      56.030  33.578  11.043  1.00 50.90      A
ATOM   1430  CB  SER B   3      67.953  -2.426   7.203  1.00 59.72      B
ATOM   1431  OG  SER B   3      68.517  -3.384   6.321  1.00 60.71      B
ATOM   1432  C   SER B   3      68.164  -3.822   9.277  1.00 57.49      B
ATOM   1433  O   SER B   3      68.117  -4.879   8.642  1.00 57.32      B
ATOM   1434  N   SER B   3      70.072  -2.418   8.486  1.00 59.35      B
ATOM   1435  CA  SER B   3      68.586  -2.517   8.597  1.00 58.84      B
ATOM   1436  N   PRO B   4      67.855  -3.763  10.585  1.00 55.71      B
ATOM   1437  CD  PRO B   4      67.914  -2.580  11.463  1.00 54.97      B
ATOM   1438  CA  PRO B   4      67.438  -4.952  11.338  1.00 53.72      B
ATOM   1439  CB  PRO B   4      67.457  -4.467  12.787  1.00 54.71      B
ATOM   1440  CG  PRO B   4      67.095  -3.021  12.660  1.00 54.93      B
ATOM   1441  C   PRO B   4      66.069  -5.487  10.918  1.00 51.05      B
ATOM   1442  O   PRO B   4      65.240  -4.753  10.379  1.00 50.96      B
ATOM   1443  N   GLU B   5      65.843  -6.773  11.165  1.00 47.90      B
ATOM   1444  CA  GLU B   5      64.581  -7.410  10.810  1.00 45.24      B
ATOM   1445  CB  GLU B   5      64.811  -8.893  10.489  1.00 48.23      B
ATOM   1446  CG  GLU B   5      65.603  -9.656  11.545  1.00 54.54      B
ATOM   1447  CD  GLU B   5      65.896 -11.102  11.140  1.00 57.83      B
ATOM   1448  OE1 GLU B   5      66.421 -11.317  10.024  1.00 59.67      B
ATOM   1449  OE2 GLU B   5      65.609 -12.020  11.941  1.00 59.33      B
ATOM   1450  C   GLU B   5      63.548  -7.269  11.920  1.00 40.85      B
ATOM   1451  O   GLU B   5      63.876  -7.328  13.105  1.00 40.81      B
ATOM   1452  N   ASP B   6      62.294  -7.083  11.532  1.00 36.03      B
ATOM   1453  CA  ASP B   6      61.223  -6.936  12.508  1.00 32.11      B
ATOM   1454  CB  ASP B   6      60.833  -5.460  12.616  1.00 29.96      B
ATOM   1455  CG  ASP B   6      59.933  -5.171  13.798  1.00 27.91      B
ATOM   1456  OD1 ASP B   6      59.280  -4.110  13.785  1.00 29.62      B
ATOM   1457  OD2 ASP B   6      59.884  -5.982  14.745  1.00 29.86      B
ATOM   1458  C   ASP B   6      60.014  -7.766  12.077  1.00 29.68      B
ATOM   1459  O   ASP B   6      59.676  -7.802  10.899  1.00 29.14      B
ATOM   1460  N   PHE B   7      59.380  -8.438  13.032  1.00 27.77      B
ATOM   1461  CA  PHE B   7      58.193  -9.249  12.765  1.00 28.11      B
ATOM   1462  CB  PHE B   7      58.453 -10.704  13.161  1.00 29.55      B
ATOM   1463  CG  PHE B   7      59.461 -11.385  12.282  1.00 31.06      B
ATOM   1464  CD1 PHE B   7      59.126 -11.766  10.989  1.00 29.85      B
ATOM   1465  CD2 PHE B   7      60.761 -11.603  12.730  1.00 32.21      B
ATOM   1466  CE1 PHE B   7      60.073 -12.355  10.145  1.00 33.75      B
ATOM   1467  CE2 PHE B   7      61.719 -12.190  11.897  1.00 34.27      B
ATOM   1468  CZ  PHE B   7      61.373 -12.568  10.599  1.00 33.07      B
ATOM   1469  C   PHE B   7      57.032  -8.657  13.562  1.00 26.58      B
ATOM   1470  O   PHE B   7      57.046  -8.645  14.794  1.00 25.72      B
ATOM   1471  N   VAL B   8      56.023  -8.174  12.849  1.00 25.17      B
ATOM   1472  CA  VAL B   8      54.891  -7.520  13.493  1.00 23.46      B
ATOM   1473  CB  VAL B   8      54.670  -6.132  12.871  1.00 21.55      B
ATOM   1474  CG1 VAL B   8      53.573  -5.394  13.612  1.00 21.83      B
ATOM   1475  CG2 VAL B   8      55.975  -5.342  12.895  1.00 21.30      B
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ATOM   1476  C   VAL B   8      53.556  -8.255  13.467  1.00 24.08      B
ATOM   1477  O   VAL B   8      53.204  -8.912  12.491  1.00 23.46      B
ATOM   1478  N   TYR B   9      52.804  -8.127  14.554  1.00 23.26      B
ATOM   1479  CA  TYR B   9      51.493  -8.747  14.619  1.00 23.18      B
ATOM   1480  CB  TYR B   9      51.510  -9.978  15.520  1.00 23.12      B
ATOM   1481  CG  TYR B   9      50.231 -10.786  15.465  1.00 24.54      B
ATOM   1482  CD1 TYR B   9      50.158 -11.962  14.722  1.00 26.50      B
ATOM   1483  CE1 TYR B   9      49.000 -12.743  14.716  1.00 25.08      B
ATOM   1484  CD2 TYR B   9      49.108 -10.399  16.190  1.00 22.88      B
ATOM   1485  CE2 TYR B   9      47.948 -11.165  16.188  1.00 23.91      B
ATOM   1486  CZ  TYR B   9      47.902 -12.342  15.455  1.00 24.87      B
ATOM   1487  OH  TYR B   9      46.780 -13.140  15.501  1.00 25.45      B
ATOM   1488  C   TYR B   9      50.509  -7.723  15.163  1.00 21.33      B
ATOM   1489  O   TYR B   9      50.798  -7.028  16.133  1.00 22.92      B
ATOM   1490  N   GLN B  10      49.353  -7.622  14.521  1.00 19.98      B
ATOM   1491  CA  GLN B  10      48.326  -6.687  14.952  1.00 19.52      B
ATOM   1492  CB  GLN B  10      48.171  -5.523  13.962  1.00 19.13      B
ATOM   1493  CG  GLN B  10      49.433  -4.810  13.509  1.00 19.33      B
ATOM   1494  CD  GLN B  10      49.117  -3.708  12.499  1.00 17.96      B
ATOM   1495  OE1 GLN B  10      48.336  -2.802  12.783  1.00 18.49      B
ATOM   1496  NE2 GLN B  10      49.715  -3.790  11.316  1.00 19.41      B
ATOM   1497  C   GLN B  10      46.967  -7.375  15.029  1.00 19.74      B
ATOM   1498  O   GLN B  10      46.626  -8.227  14.192  1.00 18.98      B
ATOM   1499  N   PHE B  11      46.195  -6.996  16.040  1.00 19.06      B
ATOM   1500  CA  PHE B  11      44.842  -7.487  16.182  1.00 16.54      B
ATOM   1501  CB  PHE B  11      44.668  -8.454  17.336  1.00 17.48      B
ATOM   1502  CG  PHE B  11      43.237  -8.847  17.544  1.00 16.17      B
ATOM   1503  CD1 PHE B  11      42.570  -9.604  16.582  1.00 17.49      B
ATOM   1504  CD2 PHE B  11      42.536  -8.406  18.656  1.00 14.41      B
ATOM   1505  CE1 PHE B  11      41.219  -9.913  16.725  1.00 18.03      B
ATOM   1506  CE2 PHE B  11      41.191  -8.708  18.814  1.00 16.34      B
ATOM   1507  CZ  PHE B  11      40.528  -9.463  17.845  1.00 17.60      B
ATOM   1508  C   PHE B  11      43.984  -6.271  16.450  1.00 18.14      B
ATOM   1509  O   PHE B  11      44.241  -5.506  17.386  1.00 15.63      B
ATOM   1510  N   LYS B  12      42.961  -6.094  15.625  1.00 17.33      B
ATOM   1511  CA  LYS B  12      42.082  -4.958  15.770  1.00 17.63      B
ATOM   1512  CB  LYS B  12      42.188  -4.067  14.536  1.00 18.71      B
ATOM   1513  CG  LYS B  12      43.599  -3.642  14.192  1.00 15.90      B
ATOM   1514  CD  LYS B  12      43.602  -2.909  12.871  1.00 17.33      B
ATOM   1515  CE  LYS B  12      44.946  -2.297  12.570  1.00 18.72      B
ATOM   1516  NZ  LYS B  12      44.838  -1.450  11.340  1.00 20.93      B
ATOM   1517  C   LYS B  12      40.632  -5.387  15.968  1.00 18.92      B
ATOM   1518  O   LYS B  12      40.041  -6.050  15.109  1.00 17.25      B
ATOM   1519  N   GLY B  13      40.076  -5.002  17.114  1.00 17.59      B
ATOM   1520  CA  GLY B  13      38.701  -5.322  17.430  1.00 19.88      B
ATOM   1521  C   GLY B  13      37.874  -4.113  17.064  1.00 20.12      B
ATOM   1522  O   GLY B  13      37.515  -3.309  17.923  1.00 21.08      B
ATOM   1523  N   MET B  14      37.561  -4.000  15.779  1.00 20.42      B
ATOM   1524  CA  MET B  14      36.817  -2.866  15.262  1.00 22.96      B
ATOM   1525  CB  MET B  14      37.334  -2.554  13.866  1.00 23.02      B
ATOM   1526  CG  MET B  14      38.846  -2.485  13.820  1.00 23.58      B
ATOM   1527  SD  MET B  14      39.449  -2.095  12.191  1.00 26.23      B
ATOM   1528  CE  MET B  14      39.260  -0.318  12.182  1.00 25.78      B
ATOM   1529  C   MET B  14      35.295  -2.997  15.242  1.00 23.12      B
ATOM   1530  O   MET B  14      34.751  -4.089  15.081  1.00 24.36      B
ATOM   1531  N   CYS B  15      34.628  -1.860  15.427  1.00 24.04      B
ATOM   1532  CA  CYS B  15      33.173  -1.768  15.433  1.00 24.91      B
ATOM   1533  C   CYS B  15      32.808  -0.587  14.547  1.00 25.49      B
ATOM   1534  O   CYS B  15      33.369   0.504  14.700  1.00 23.97      B
ATOM   1535  CB  CYS B  15      32.630  -1.489  16.847  1.00 26.02      B
ATOM   1536  SG  CYS B  15      32.691  -2.831  18.084  1.00 33.69      B
ATOM   1537  N   TYR B  16      31.871  -0.805  13.630  1.00 25.87      B
ATOM   1538  CA  TYR B  16      31.413   0.244  12.724  1.00 25.59      B
ATOM   1539  CB  TYR B  16      31.539  -0.223  11.274  1.00 24.73      B
ATOM   1540  CG  TYR B  16      32.958  -0.575  10.879  1.00 26.05      B
ATOM   1541  CD1 TYR B  16      33.523  -1.795  11.239  1.00 22.96      B
ATOM   1542  CE1 TYR B  16      34.843  -2.102  10.904  1.00 25.81      B
ATOM   1543  CD2 TYR B  16      33.748   0.334  10.171  1.00 25.30      B
ATOM   1544  CE2 TYR B  16      35.066   0.041   9.835  1.00 25.12      B
ATOM   1545  CZ  TYR B  16      35.607  -1.176  10.202  1.00 26.66      B
ATOM   1546  OH  TYR B  16      36.908  -1.463   9.868  1.00 29.22      B
ATOM   1547  C   TYR B  16      29.960   0.575  13.045  1.00 26.48      B
ATOM   1548  O   TYR B  16      29.113  -0.315  13.091  1.00 26.41      B
ATOM   1549  N   PHE B  17      29.684   1.859  13.266  1.00 27.76      B
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ATOM	1550	CA	PHE	B	17	28.346	2.338	13.613	1.00	29.09	B
ATOM	1551	CB	PHE	B	17	28.382	3.047	14.967	1.00	28.08	B
ATOM	1552	CG	PHE	B	17	28.885	2.194	16.091	1.00	28.21	B
ATOM	1553	CD1	PHE	B	17	28.056	1.253	16.693	1.00	27.20	B
ATOM	1554	CD2	PHE	B	17	30.188	2.340	16.558	1.00	26.60	B
ATOM	1555	CE1	PHE	B	17	28.519	0.470	17.752	1.00	28.13	B
ATOM	1556	CE2	PHE	B	17	30.662	1.565	17.610	1.00	25.62	B
ATOM	1557	CZ	PHE	B	17	29.828	0.629	18.210	1.00	26.17	B
ATOM	1558	C	PHE	B	17	27.772	3.318	12.592	1.00	30.71	B
ATOM	1559	O	PHE	B	17	28.452	4.239	12.155	1.00	31.05	B
ATOM	1560	N	THR	B	18	26.506	3.125	12.237	1.00	33.51	B
ATOM	1561	CA	THR	B	18	25.831	4.005	11.291	1.00	36.95	B
ATOM	1562	CB	THR	B	18	25.797	3.395	9.875	1.00	37.23	B
ATOM	1563	OG1	THR	B	18	27.133	3.105	9.447	1.00	40.77	B
ATOM	1564	CG2	THR	B	18	25.171	4.369	8.891	1.00	38.43	B
ATOM	1565	C	THR	B	18	24.398	4.273	11.753	1.00	38.56	B
ATOM	1566	O	THR	B	18	23.671	3.351	12.131	1.00	38.36	B
ATOM	1567	N	ASN	B	19	24.007	5.544	11.726	1.00	39.80	B
ATOM	1568	CA	ASN	B	19	22.668	5.961	12.132	1.00	41.35	B
ATOM	1569	CB	ASN	B	19	21.638	5.465	11.110	1.00	41.21	B
ATOM	1570	CG	ASN	B	19	20.311	6.190	11.223	1.00	42.85	B
ATOM	1571	OD1	ASN	B	19	20.271	7.378	11.548	1.00	42.24	B
ATOM	1572	ND2	ASN	B	19	19.219	5.485	10.937	1.00	42.57	B
ATOM	1573	C	ASN	B	19	22.352	5.416	13.521	1.00	42.37	B
ATOM	1574	O	ASN	B	19	21.540	4.503	13.673	1.00	43.36	B
ATOM	1575	N	GLY	B	20	22.997	5.989	14.533	1.00	42.56	B
ATOM	1576	CA	GLY	B	20	22.790	5.535	15.894	1.00	43.89	B
ATOM	1577	C	GLY	B	20	23.293	4.110	16.031	1.00	45.10	B
ATOM	1578	O	GLY	B	20	24.421	3.807	15.646	1.00	44.28	B
ATOM	1579	N	THR	B	21	22.458	3.232	16.575	1.00	46.37	B
ATOM	1580	CA	THR	B	21	22.824	1.832	16.738	1.00	47.42	B
ATOM	1581	CB	THR	B	21	22.667	1.373	18.199	1.00	48.57	B
ATOM	1582	OG1	THR	B	21	21.438	1.885	18.731	1.00	49.14	B
ATOM	1583	CG2	THR	B	21	23.843	1.856	19.043	1.00	47.59	B
ATOM	1584	C	THR	B	21	21.958	0.947	15.846	1.00	48.74	B
ATOM	1585	O	THR	B	21	21.925	-0.276	16.016	1.00	48.04	B
ATOM	1586	N	GLU	B	22	21.253	1.570	14.902	1.00	48.57	B
ATOM	1587	CA	GLU	B	22	20.405	0.822	13.979	1.00	48.90	B
ATOM	1588	CB	GLU	B	22	19.741	1.745	12.957	1.00	52.60	B
ATOM	1589	CG	GLU	B	22	18.669	2.667	13.493	1.00	58.06	B
ATOM	1590	CD	GLU	B	22	17.862	3.297	12.368	1.00	62.27	B
ATOM	1591	OE1	GLU	B	22	17.027	4.185	12.648	1.00	63.99	B
ATOM	1592	OE2	GLU	B	22	18.065	2.894	11.199	1.00	64.70	B
ATOM	1593	C	GLU	B	22	21.285	-0.156	13.229	1.00	46.38	B
ATOM	1594	O	GLU	B	22	21.029	-1.356	13.209	1.00	45.52	B
ATOM	1595	N	ARG	B	23	22.324	0.379	12.601	1.00	45.42	B
ATOM	1596	CA	ARG	B	23	23.260	-0.438	11.844	1.00	44.59	B
ATOM	1597	CB	ARG	B	23	23.423	0.127	10.422	1.00	45.69	B
ATOM	1598	CG	ARG	B	23	22.169	-0.062	9.554	1.00	49.95	B
ATOM	1599	CD	ARG	B	23	22.406	0.237	8.074	1.00	53.34	B
ATOM	1600	NE	ARG	B	23	22.153	1.632	7.708	1.00	55.57	B
ATOM	1601	CZ	ARG	B	23	20.949	2.200	7.700	1.00	57.20	B
ATOM	1602	NH1	ARG	B	23	19.878	1.495	8.042	1.00	58.09	B
ATOM	1603	NH2	ARG	B	23	20.813	3.471	7.340	1.00	56.82	B
ATOM	1604	C	ARG	B	23	24.606	-0.534	12.567	1.00	40.56	B
ATOM	1605	O	ARG	B	23	25.306	0.459	12.748	1.00	41.15	B
ATOM	1606	N	VAL	B	24	24.944	-1.743	12.995	1.00	38.17	B
ATOM	1607	CA	VAL	B	24	26.191	-1.996	13.708	1.00	34.88	B
ATOM	1608	CB	VAL	B	24	25.931	-2.314	15.200	1.00	34.41	B
ATOM	1609	CG1	VAL	B	24	27.251	-2.526	15.918	1.00	35.28	B
ATOM	1610	CG2	VAL	B	24	25.146	-1.190	15.852	1.00	34.70	B
ATOM	1611	C	VAL	B	24	26.909	-3.194	13.100	1.00	32.34	B
ATOM	1612	O	VAL	B	24	26.287	-4.214	12.812	1.00	33.23	B
ATOM	1613	N	ARG	B	25	28.217	-3.076	12.898	1.00	30.18	B
ATOM	1614	CA	ARG	B	25	28.970	-4.194	12.354	1.00	26.97	B
ATOM	1615	CB	ARG	B	25	29.225	-4.022	10.852	1.00	27.67	B
ATOM	1616	CG	ARG	B	25	29.400	-5.362	10.170	1.00	29.58	B
ATOM	1617	CD	ARG	B	25	30.406	-5.363	9.052	1.00	31.26	B
ATOM	1618	NE	ARG	B	25	30.058	-4.454	7.974	1.00	33.12	B
ATOM	1619	CZ	ARG	B	25	30.415	-4.631	6.705	1.00	32.27	B
ATOM	1620	NH1	ARG	B	25	31.124	-5.695	6.346	1.00	31.13	B
ATOM	1621	NH2	ARG	B	25	30.087	-3.726	5.799	1.00	30.62	B
ATOM	1622	C	ARG	B	25	30.305	-4.402	13.065	1.00	24.10	B
ATOM	1623	O	ARG	B	25	31.095	-3.477	13.225	1.00	22.56	B

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ATOM   1624  N   LEU B  26      30.551  -5.630  13.495  1.00 22.65      B
ATOM   1625  CA  LEU B  26      31.801  -5.942  14.163  1.00 22.38      B
ATOM   1626  CB  LEU B  26      31.558  -6.888  15.345  1.00 20.25      B
ATOM   1627  CG  LEU B  26      32.795  -7.389  16.100  1.00 19.86      B
ATOM   1628  CD1 LEU B  26      32.452  -7.613  17.568  1.00 22.49      B
ATOM   1629  CD2 LEU B  26      33.304  -8.665  15.464  1.00 18.43      B
ATOM   1630  C   LEU B  26      32.726  -6.591  13.150  1.00 21.50      B
ATOM   1631  O   LEU B  26      32.289  -7.402  12.342  1.00 22.83      B
ATOM   1632  N   VAL B  27      33.998  -6.208  13.177  1.00 21.29      B
ATOM   1633  CA  VAL B  27      34.984  -6.780  12.270  1.00 20.66      B
ATOM   1634  CB  VAL B  27      35.178  -5.911  11.004  1.00 20.59      B
ATOM   1635  CG1 VAL B  27      36.169  -6.576  10.069  1.00 19.45      B
ATOM   1636  CG2 VAL B  27      33.849  -5.696  10.297  1.00 22.37      B
ATOM   1637  C   VAL B  27      36.330  -6.885  12.988  1.00 22.39      B
ATOM   1638  O   VAL B  27      37.046  -5.889  13.135  1.00 22.63      B
ATOM   1639  N   SER B  28      36.673  -8.083  13.450  1.00 21.32      B
ATOM   1640  CA  SER B  28      37.947  -8.259  14.130  1.00 21.51      B
ATOM   1641  CB  SER B  28      37.831  -9.284  15.275  1.00 19.72      B
ATOM   1642  OG  SER B  28      37.542 -10.581  14.819  1.00 24.33      B
ATOM   1643  C   SER B  28      38.954  -8.693  13.074  1.00 21.25      B
ATOM   1644  O   SER B  28      38.661  -9.537  12.229  1.00 19.44      B
ATOM   1645  N   ARG B  29      40.137  -8.089  13.106  1.00 20.61      B
ATOM   1646  CA  ARG B  29      41.158  -8.402  12.115  1.00 19.66      B
ATOM   1647  CB  ARG B  29      41.418  -7.169  11.230  1.00 19.91      B
ATOM   1648  CG  ARG B  29      40.178  -6.407  10.754  1.00 16.79      B
ATOM   1649  CD  ARG B  29      40.608  -5.121  10.031  1.00 18.10      B
ATOM   1650  NE  ARG B  29      39.487  -4.318   9.553  1.00 19.38      B
ATOM   1651  CZ  ARG B  29      38.738  -4.619   8.497  1.00 20.62      B
ATOM   1652  NH1 ARG B  29      38.983  -5.714   7.789  1.00 19.50      B
ATOM   1653  NH2 ARG B  29      37.736  -3.822   8.149  1.00 21.90      B
ATOM   1654  C   ARG B  29      42.482  -8.833  12.738  1.00 18.57      B
ATOM   1655  O   ARG B  29      43.024  -8.121  13.584  1.00 19.40      B
ATOM   1656  N   SER B  30      42.991  -9.995  12.326  1.00 18.99      B
ATOM   1657  CA  SER B  30      44.284 -10.501  12.797  1.00 21.66      B
ATOM   1658  CB  SER B  30      44.241 -12.015  13.023  1.00 22.77      B
ATOM   1659  OG  SER B  30      43.390 -12.352  14.106  1.00 26.81      B
ATOM   1660  C   SER B  30      45.265 -10.163  11.673  1.00 23.37      B
ATOM   1661  O   SER B  30      45.055 -10.553  10.522  1.00 21.31      B
ATOM   1662  N   ILE B  31      46.338  -9.450  12.009  1.00 24.76      B
ATOM   1663  CA  ILE B  31      47.298  -8.998  10.999  1.00 24.33      B
ATOM   1664  CB  ILE B  31      47.341  -7.440  10.958  1.00 25.20      B
ATOM   1665  CG2 ILE B  31      47.982  -6.964   9.672  1.00 23.24      B
ATOM   1666  CG1 ILE B  31      45.934  -6.857  11.106  1.00 26.96      B
ATOM   1667  CD1 ILE B  31      45.032  -7.136   9.947  1.00 31.25      B
ATOM   1668  C   ILE B  31      48.741  -9.460  11.187  1.00 23.98      B
ATOM   1669  O   ILE B  31      49.298  -9.318  12.272  1.00 22.29      B
ATOM   1670  N   TYR B  32      49.345  -9.993  10.123  1.00 25.50      B
ATOM   1671  CA  TYR B  32      50.750 -10.405  10.162  1.00 26.21      B
ATOM   1672  CB  TYR B  32      50.965 -11.764   9.492  1.00 28.46      B
ATOM   1673  CG  TYR B  32      52.406 -12.224   9.544  1.00 31.10      B
ATOM   1674  CD1 TYR B  32      53.050 -12.412  10.765  1.00 32.47      B
ATOM   1675  CE1 TYR B  32      54.393 -12.780  10.827  1.00 34.69      B
ATOM   1676  CD2 TYR B  32      53.140 -12.424   8.375  1.00 33.60      B
ATOM   1677  CE2 TYR B  32      54.484 -12.795   8.422  1.00 34.50      B
ATOM   1678  CZ  TYR B  32      55.103 -12.965   9.654  1.00 35.65      B
ATOM   1679  OH  TYR B  32      56.438 -13.281   9.717  1.00 37.73      B
ATOM   1680  C   TYR B  32      51.478  -9.307   9.384  1.00 25.67      B
ATOM   1681  O   TYR B  32      51.273  -9.140   8.174  1.00 24.75      B
ATOM   1682  N   ASN B  33      52.319  -8.559  10.094  1.00 25.63      B
ATOM   1683  CA  ASN B  33      53.036  -7.416   9.526  1.00 24.95      B
ATOM   1684  CB  ASN B  33      53.955  -7.848   8.379  1.00 23.75      B
ATOM   1685  CG  ASN B  33      55.171  -8.615   8.878  1.00 24.11      B
ATOM   1686  OD1 ASN B  33      55.803  -8.223   9.861  1.00 25.42      B
ATOM   1687  ND2 ASN B  33      55.506  -9.708   8.204  1.00 25.18      B
ATOM   1688  C   ASN B  33      51.990  -6.392   9.070  1.00 25.11      B
ATOM   1689  O   ASN B  33      51.491  -5.618   9.893  1.00 26.06      B
ATOM   1690  N   ARG B  34      51.652  -6.375   7.786  1.00 25.75      B
ATOM   1691  CA  ARG B  34      50.631  -5.449   7.296  1.00 27.64      B
ATOM   1692  CB  ARG B  34      51.244  -4.362   6.408  1.00 27.74      B
ATOM   1693  CG  ARG B  34      51.972  -3.257   7.158  1.00 29.94      B
ATOM   1694  CD  ARG B  34      51.664  -1.888   6.541  1.00 32.95      B
ATOM   1695  NE  ARG B  34      51.897  -1.875   5.101  1.00 35.17      B
ATOM   1696  CZ  ARG B  34      51.392  -0.973   4.267  1.00 37.51      B
ATOM   1697  NH1 ARG B  34      50.622   0.003   4.729  1.00 39.45      B
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ATOM   1698  NH2 ARG B  34      51.642  -1.058   2.967  1.00 36.90      B
ATOM   1699  C   ARG B  34      49.587  -6.218   6.498  1.00 26.48      B
ATOM   1700  O   ARG B  34      48.740  -5.639   5.825  1.00 27.17      B
ATOM   1701  N   GLU B  35      49.647  -7.534   6.602  1.00 25.66      B
ATOM   1702  CA  GLU B  35      48.746  -8.394   5.867  1.00 26.99      B
ATOM   1703  CB  GLU B  35      49.570  -9.483   5.175  1.00 31.53      B
ATOM   1704  CG  GLU B  35      48.814 -10.396   4.235  1.00 36.29      B
ATOM   1705  CD  GLU B  35      49.695 -11.530   3.731  1.00 40.61      B
ATOM   1706  OE1 GLU B  35      50.825 -11.240   3.276  1.00 45.20      B
ATOM   1707  OE2 GLU B  35      49.266 -12.705   3.791  1.00 41.13      B
ATOM   1708  C   GLU B  35      47.699  -9.031   6.764  1.00 25.09      B
ATOM   1709  O   GLU B  35      48.028  -9.807   7.663  1.00 23.31      B
ATOM   1710  N   GLU B  36      46.439  -8.689   6.522  1.00 24.53      B
ATOM   1711  CA  GLU B  36      45.332  -9.263   7.275  1.00 25.73      B
ATOM   1712  CB  GLU B  36      44.023  -8.519   6.958  1.00 26.62      B
ATOM   1713  CG  GLU B  36      42.783  -9.095   7.636  1.00 28.26      B
ATOM   1714  CD  GLU B  36      41.545  -8.232   7.442  1.00 31.08      B
ATOM   1715  OE1 GLU B  36      41.420  -7.590   6.377  1.00 32.56      B
ATOM   1716  OE2 GLU B  36      40.685  -8.206   8.349  1.00 32.83      B
ATOM   1717  C   GLU B  36      45.238 -10.717   6.822  1.00 24.67      B
ATOM   1718  O   GLU B  36      45.141 -10.992   5.626  1.00 23.91      B
ATOM   1719  N   ILE B  37      45.282 -11.647   7.771  1.00 26.11      B
ATOM   1720  CA  ILE B  37      45.219 -13.067   7.433  1.00 27.80      B
ATOM   1721  CB  ILE B  37      46.444 -13.822   8.013  1.00 27.27      B
ATOM   1722  CG2 ILE B  37      47.728 -13.174   7.516  1.00 27.41      B
ATOM   1723  CG1 ILE B  37      46.440 -13.767   9.537  1.00 29.35      B
ATOM   1724  CD1 ILE B  37      47.596 -14.509  10.175  1.00 30.27      B
ATOM   1725  C   ILE B  37      43.922 -13.750   7.879  1.00 27.86      B
ATOM   1726  O   ILE B  37      43.445 -14.674   7.221  1.00 28.29      B
ATOM   1727  N   VAL B  38      43.348 -13.296   8.989  1.00 28.78      B
ATOM   1728  CA  VAL B  38      42.097 -13.870   9.487  1.00 29.29      B
ATOM   1729  CB  VAL B  38      42.294 -14.751  10.741  1.00 30.18      B
ATOM   1730  CG1 VAL B  38      40.983 -15.452  11.071  1.00 33.17      B
ATOM   1731  CG2 VAL B  38      43.399 -15.764  10.520  1.00 31.09      B
ATOM   1732  C   VAL B  38      41.161 -12.745   9.882  1.00 28.75      B
ATOM   1733  O   VAL B  38      41.585 -11.758  10.480  1.00 29.70      B
ATOM   1734  N   ARG B  39      39.881 -12.911   9.581  1.00 27.05      B
ATOM   1735  CA  ARG B  39      38.895 -11.890   9.892  1.00 25.46      B
ATOM   1736  CB  ARG B  39      38.627 -11.064   8.632  1.00 27.23      B
ATOM   1737  CG  ARG B  39      37.544 -10.011   8.765  1.00 30.84      B
ATOM   1738  CD  ARG B  39      37.111  -9.476   7.398  1.00 29.34      B
ATOM   1739  NE  ARG B  39      38.218  -8.861   6.673  1.00 30.83      B
ATOM   1740  CZ  ARG B  39      38.116  -8.328   5.459  1.00 31.23      B
ATOM   1741  NH1 ARG B  39      36.951  -8.333   4.823  1.00 31.08      B
ATOM   1742  NH2 ARG B  39      39.178  -7.779   4.883  1.00 30.81      B
ATOM   1743  C   ARG B  39      37.573 -12.476  10.381  1.00 25.41      B
ATOM   1744  O   ARG B  39      37.192 -13.587   9.996  1.00 25.06      B
ATOM   1745  N   PHE B  40      36.890 -11.742  11.252  1.00 23.72      B
ATOM   1746  CA  PHE B  40      35.569 -12.164  11.696  1.00 24.04      B
ATOM   1747  CB  PHE B  40      35.498 -12.554  13.171  1.00 22.69      B
ATOM   1748  CG  PHE B  40      34.133 -13.036  13.573  1.00 20.75      B
ATOM   1749  CD1 PHE B  40      33.777 -14.370  13.413  1.00 21.07      B
ATOM   1750  CD2 PHE B  40      33.162 -12.135  14.003  1.00 21.00      B
ATOM   1751  CE1 PHE B  40      32.475 -14.800  13.670  1.00 20.86      B
ATOM   1752  CE2 PHE B  40      31.858 -12.553  14.261  1.00 19.95      B
ATOM   1753  CZ  PHE B  40      31.517 -13.890  14.092  1.00 19.78      B
ATOM   1754  C   PHE B  40      34.662 -10.969  11.474  1.00 24.27      B
ATOM   1755  O   PHE B  40      34.755  -9.970  12.183  1.00 22.94      B
ATOM   1756  N   ASP B  41      33.800 -11.088  10.471  1.00 24.75      B
ATOM   1757  CA  ASP B  41      32.857 -10.040  10.101  1.00 24.98      B
ATOM   1758  CB  ASP B  41      32.863  -9.881   8.578  1.00 25.64      B
ATOM   1759  CG  ASP B  41      32.162  -8.626   8.116  1.00 27.70      B
ATOM   1760  OD1 ASP B  41      31.163  -8.227   8.749  1.00 26.21      B
ATOM   1761  OD2 ASP B  41      32.607  -8.045   7.102  1.00 30.42      B
ATOM   1762  C   ASP B  41      31.477 -10.497  10.560  1.00 24.50      B
ATOM   1763  O   ASP B  41      31.011 -11.558  10.151  1.00 24.95      B
ATOM   1764  N   SER B  42      30.822  -9.710  11.404  1.00 24.16      B
ATOM   1765  CA  SER B  42      29.501 -10.096  11.882  1.00 26.13      B
ATOM   1766  CB  SER B  42      29.013  -9.133  12.972  1.00 24.53      B
ATOM   1767  OG  SER B  42      28.932  -7.806  12.497  1.00 23.39      B
ATOM   1768  C   SER B  42      28.497 -10.149  10.729  1.00 27.68      B
ATOM   1769  O   SER B  42      27.474 -10.833  10.818  1.00 27.31      B
ATOM   1770  N   ASP B  43      28.789  -9.419   9.654  1.00 28.17      B
ATOM   1771  CA  ASP B  43      27.924  -9.413   8.477  1.00 29.40      B
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ATOM   1772  CB  ASP B  43      28.332  -8.298   7.508  1.00 29.57      B
ATOM   1773  CG  ASP B  43      27.587  -7.006   7.766  1.00 32.71      B
ATOM   1774  OD1 ASP B  43      26.999  -6.868   8.862  1.00 33.94      B
ATOM   1775  OD2 ASP B  43      27.593  -6.120   6.881  1.00 33.98      B
ATOM   1776  C   ASP B  43      28.036 -10.762   7.782  1.00 29.46      B
ATOM   1777  O   ASP B  43      27.162 -11.150   7.009  1.00 30.77      B
ATOM   1778  N   VAL B  44      29.123 -11.471   8.068  1.00 27.98      B
ATOM   1779  CA  VAL B  44      29.365 -12.780   7.486  1.00 27.16      B
ATOM   1780  CB  VAL B  44      30.846 -12.939   7.075  1.00 27.32      B
ATOM   1781  CG1 VAL B  44      31.083 -14.323   6.488  1.00 24.09      B
ATOM   1782  CG2 VAL B  44      31.218 -11.857   6.073  1.00 24.66      B
ATOM   1783  C   VAL B  44      28.990 -13.867   8.490  1.00 28.43      B
ATOM   1784  O   VAL B  44      28.558 -14.948   8.108  1.00 29.45      B
ATOM   1785  N   GLY B  45      29.177 -13.590   9.774  1.00 28.05      B
ATOM   1786  CA  GLY B  45      28.794 -14.561  10.780  1.00 28.67      B
ATOM   1787  C   GLY B  45      29.758 -15.679  11.125  1.00 28.25      B
ATOM   1788  O   GLY B  45      29.458 -16.486  12.002  1.00 29.67      B
ATOM   1789  N   GLU B  46      30.895 -15.755  10.443  1.00 27.03      B
ATOM   1790  CA  GLU B  46      31.873 -16.787  10.757  1.00 29.26      B
ATOM   1791  CB  GLU B  46      31.571 -18.087  10.000  1.00 32.16      B
ATOM   1792  CG  GLU B  46      32.039 -18.121   8.554  1.00 37.36      B
ATOM   1793  CD  GLU B  46      31.752 -19.458   7.885  1.00 41.59      B
ATOM   1794  OE1 GLU B  46      32.163 -20.505   8.433  1.00 43.30      B
ATOM   1795  OE2 GLU B  46      31.116 -19.463   6.810  1.00 43.54      B
ATOM   1796  C   GLU B  46      33.272 -16.295  10.413  1.00 29.29      B
ATOM   1797  O   GLU B  46      33.432 -15.288   9.722  1.00 30.45      B
ATOM   1798  N   PHE B  47      34.281 -17.005  10.904  1.00 28.00      B
ATOM   1799  CA  PHE B  47      35.670 -16.650  10.651  1.00 28.10      B
ATOM   1800  CB  PHE B  47      36.594 -17.445  11.566  1.00 28.74      B
ATOM   1801  CG  PHE B  47      36.487 -17.067  13.016  1.00 30.23      B
ATOM   1802  CD1 PHE B  47      37.248 -16.023  13.535  1.00 28.96      B
ATOM   1803  CD2 PHE B  47      35.636 -17.768  13.870  1.00 30.80      B
ATOM   1804  CE1 PHE B  47      37.166 -15.683  14.888  1.00 31.59      B
ATOM   1805  CE2 PHE B  47      35.544 -17.435  15.229  1.00 31.97      B
ATOM   1806  CZ  PHE B  47      36.311 -16.392  15.737  1.00 30.36      B
ATOM   1807  C   PHE B  47      36.034 -16.948   9.211  1.00 28.71      B
ATOM   1808  O   PHE B  47      35.576 -17.937   8.640  1.00 28.03      B
ATOM   1809  N   ARG B  48      36.872 -16.091   8.637  1.00 27.96      B
ATOM   1810  CA  ARG B  48      37.327 -16.242   7.261  1.00 26.41      B
ATOM   1811  CB  ARG B  48      36.513 -15.341   6.326  1.00 26.57      B
ATOM   1812  CG  ARG B  48      35.068 -15.755   6.108  1.00 26.19      B
ATOM   1813  CD  ARG B  48      34.971 -17.079   5.352  1.00 24.98      B
ATOM   1814  NE  ARG B  48      33.579 -17.465   5.146  1.00 26.01      B
ATOM   1815  CZ  ARG B  48      32.755 -16.867   4.294  1.00 26.84      B
ATOM   1816  NH1 ARG B  48      33.181 -15.857   3.554  1.00 26.92      B
ATOM   1817  NH2 ARG B  48      31.492 -17.260   4.204  1.00 30.22      B
ATOM   1818  C   ARG B  48      38.799 -15.861   7.140  1.00 26.95      B
ATOM   1819  O   ARG B  48      39.255 -14.878   7.737  1.00 24.36      B
ATOM   1820  N   ALA B  49      39.542 -16.647   6.373  1.00 24.93      B
ATOM   1821  CA  ALA B  49      40.943 -16.349   6.143  1.00 26.58      B
ATOM   1822  CB  ALA B  49      41.709 -17.619   5.792  1.00 27.05      B
ATOM   1823  C   ALA B  49      40.927 -15.397   4.956  1.00 26.47      B
ATOM   1824  O   ALA B  49      40.210 -15.635   3.983  1.00 26.12      B
ATOM   1825  N   VAL B  50      41.674 -14.302   5.044  1.00 27.06      B
ATOM   1826  CA  VAL B  50      41.720 -13.357   3.936  1.00 26.50      B
ATOM   1827  CB  VAL B  50      41.790 -11.876   4.439  1.00 27.14      B
ATOM   1828  CG1 VAL B  50      42.327 -11.827   5.846  1.00 29.89      B
ATOM   1829  CG2 VAL B  50      42.628 -11.020   3.501  1.00 27.33      B
ATOM   1830  C   VAL B  50      42.891 -13.742   3.037  1.00 26.58      B
ATOM   1831  O   VAL B  50      42.914 -13.390   1.860  1.00 27.84      B
ATOM   1832  N   THR B  51      43.842 -14.489   3.598  1.00 26.61      B
ATOM   1833  CA  THR B  51      44.992 -15.011   2.846  1.00 28.59      B
ATOM   1834  CB  THR B  51      46.295 -14.193   3.056  1.00 28.25      B
ATOM   1835  OG1 THR B  51      46.828 -14.464   4.356  1.00 28.56      B
ATOM   1836  CG2 THR B  51      46.033 -12.699   2.899  1.00 27.40      B
ATOM   1837  C   THR B  51      45.256 -16.435   3.344  1.00 29.29      B
ATOM   1838  O   THR B  51      44.787 -16.818   4.418  1.00 30.16      B
ATOM   1839  N   LEU B  52      46.005 -17.217   2.575  1.00 30.64      B
ATOM   1840  CA  LEU B  52      46.309 -18.596   2.959  1.00 31.32      B
ATOM   1841  CB  LEU B  52      47.277 -19.237   1.963  1.00 32.19      B
ATOM   1842  CG  LEU B  52      46.706 -19.724   0.624  1.00 36.90      B
ATOM   1843  CD1 LEU B  52      47.836 -20.306  -0.216  1.00 35.68      B
ATOM   1844  CD2 LEU B  52      45.620 -20.775   0.861  1.00 35.34      B
ATOM   1845  C   LEU B  52      46.892 -18.724   4.359  1.00 31.57      B
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ATOM   1846  O   LEU B  52      46.570 -19.656   5.097  1.00 31.50      B
ATOM   1847  N   LEU B  53      47.753 -17.786   4.723  1.00 31.09      B
ATOM   1848  CA  LEU B  53      48.388 -17.815   6.029  1.00 30.93      B
ATOM   1849  CB  LEU B  53      49.160 -16.511   6.246  1.00 31.99      B
ATOM   1850  CG  LEU B  53      50.338 -16.532   7.221  1.00 35.20      B
ATOM   1851  CD1 LEU B  53      51.364 -17.559   6.763  1.00 35.92      B
ATOM   1852  CD2 LEU B  53      50.975 -15.148   7.284  1.00 34.96      B
ATOM   1853  C   LEU B  53      47.377 -18.017   7.160  1.00 29.90      B
ATOM   1854  O   LEU B  53      47.663 -18.709   8.138  1.00 30.68      B
ATOM   1855  N   GLY B  54      46.192 -17.430   7.015  1.00 28.63      B
ATOM   1856  CA  GLY B  54      45.181 -17.537   8.057  1.00 29.75      B
ATOM   1857  C   GLY B  54      44.140 -18.635   7.901  1.00 30.44      B
ATOM   1858  O   GLY B  54      43.146 -18.664   8.630  1.00 28.02      B
ATOM   1859  N   LEU B  55      44.364 -19.547   6.964  1.00 30.54      B
ATOM   1860  CA  LEU B  55      43.417 -20.630   6.732  1.00 32.59      B
ATOM   1861  CB  LEU B  55      43.765 -21.344   5.422  1.00 35.94      B
ATOM   1862  CG  LEU B  55      42.776 -22.383   4.889  1.00 38.88      B
ATOM   1863  CD1 LEU B  55      41.355 -21.831   4.927  1.00 38.23      B
ATOM   1864  CD2 LEU B  55      43.173 -22.766   3.467  1.00 39.03      B
ATOM   1865  C   LEU B  55      43.330 -21.631   7.892  1.00 32.20      B
ATOM   1866  O   LEU B  55      42.235 -22.026   8.291  1.00 33.32      B
ATOM   1867  N   PRO B  56      44.478 -22.058   8.447  1.00 31.03      B
ATOM   1868  CD  PRO B  56      45.862 -21.802   8.009  1.00 30.17      B
ATOM   1869  CA  PRO B  56      44.451 -23.013   9.561  1.00 30.23      B
ATOM   1870  CB  PRO B  56      45.925 -23.148   9.931  1.00 30.27      B
ATOM   1871  CG  PRO B  56      46.609 -22.967   8.610  1.00 28.92      B
ATOM   1872  C   PRO B  56      43.613 -22.525  10.740  1.00 31.42      B
ATOM   1873  O   PRO B  56      42.730 -23.237  11.222  1.00 33.17      B
ATOM   1874  N   ALA B  57      43.893 -21.305  11.196  1.00 30.04      B
ATOM   1875  CA  ALA B  57      43.181 -20.719  12.322  1.00 28.60      B
ATOM   1876  CB  ALA B  57      43.818 -19.389  12.697  1.00 26.81      B
ATOM   1877  C   ALA B  57      41.695 -20.528  12.021  1.00 29.08      B
ATOM   1878  O   ALA B  57      40.847 -20.737  12.887  1.00 28.22      B
ATOM   1879  N   ALA B  58      41.385 -20.135  10.791  1.00 28.84      B
ATOM   1880  CA  ALA B  58      40.002 -19.922  10.386  1.00 31.06      B
ATOM   1881  CB  ALA B  58      39.955 -19.426   8.947  1.00 29.79      B
ATOM   1882  C   ALA B  58      39.169 -21.199  10.529  1.00 32.38      B
ATOM   1883  O   ALA B  58      38.113 -21.197  11.170  1.00 31.57      B
ATOM   1884  N   GLU B  59      39.647 -22.285   9.929  1.00 33.50      B
ATOM   1885  CA  GLU B  59      38.949 -23.565   9.993  1.00 33.91      B
ATOM   1886  CB  GLU B  59      39.706 -24.622   9.195  1.00 35.67      B
ATOM   1887  CG  GLU B  59      39.619 -24.457   7.696  1.00 39.73      B
ATOM   1888  CD  GLU B  59      40.327 -25.583   6.957  1.00 43.58      B
ATOM   1889  OE1 GLU B  59      41.561 -25.715   7.119  1.00 44.52      B
ATOM   1890  OE2 GLU B  59      39.648 -26.337   6.222  1.00 44.30      B
ATOM   1891  C   GLU B  59      38.771 -24.063  11.425  1.00 33.56      B
ATOM   1892  O   GLU B  59      37.708 -24.570  11.790  1.00 34.40      B
ATOM   1893  N   TYR B  60      39.815 -23.923  12.233  1.00 31.99      B
ATOM   1894  CA  TYR B  60      39.754 -24.369  13.611  1.00 31.01      B
ATOM   1895  CB  TYR B  60      41.112 -24.202  14.292  1.00 31.13      B
ATOM   1896  CG  TYR B  60      41.051 -24.548  15.750  1.00 30.99      B
ATOM   1897  CD1 TYR B  60      40.919 -25.871  16.162  1.00 32.55      B
ATOM   1898  CE1 TYR B  60      40.770 -26.192  17.508  1.00 35.39      B
ATOM   1899  CD2 TYR B  60      41.039 -23.550  16.716  1.00 32.67      B
ATOM   1900  CE2 TYR B  60      40.890 -23.853  18.064  1.00 35.14      B
ATOM   1901  CZ  TYR B  60      40.756 -25.177  18.455  1.00 36.91      B
ATOM   1902  OH  TYR B  60      40.606 -25.483  19.791  1.00 40.06      B
ATOM   1903  C   TYR B  60      38.695 -23.631  14.426  1.00 31.72      B
ATOM   1904  O   TYR B  60      37.840 -24.258  15.050  1.00 31.72      B
ATOM   1905  N   TRP B  61      38.752 -22.303  14.428  1.00 30.37      B
ATOM   1906  CA  TRP B  61      37.790 -21.525  15.194  1.00 31.57      B
ATOM   1907  CB  TRP B  61      38.129 -20.024  15.140  1.00 32.14      B
ATOM   1908  CG  TRP B  61      39.430 -19.666  15.824  1.00 33.73      B
ATOM   1909  CD2 TRP B  61      40.359 -18.648  15.429  1.00 35.16      B
ATOM   1910  CE2 TRP B  61      41.418 -18.662  16.362  1.00 35.99      B
ATOM   1911  CE3 TRP B  61      40.397 -17.719  14.378  1.00 38.30      B
ATOM   1912  CD1 TRP B  61      39.949 -20.236  16.949  1.00 33.63      B
ATOM   1913  NE1 TRP B  61      41.142 -19.642  17.278  1.00 33.97      B
ATOM   1914  CZ2 TRP B  61      42.512 -17.782  16.277  1.00 38.13      B
ATOM   1915  CZ3 TRP B  61      41.487 -16.836  14.293  1.00 39.26      B
ATOM   1916  CH2 TRP B  61      42.527 -16.879  15.240  1.00 38.22      B
ATOM   1917  C   TRP B  61      36.349 -21.758  14.739  1.00 31.22      B
ATOM   1918  O   TRP B  61      35.436 -21.758  15.559  1.00 29.98      B
ATOM   1919  N   ASN B  62      36.137 -21.955  13.440  1.00 31.63      B
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ATOM   1920  CA  ASN B  62      34.781 -22.191  12.950  1.00 32.57      B
ATOM   1921  CB  ASN B  62      34.701 -22.021  11.434  1.00 30.37      B
ATOM   1922  CG  ASN B  62      34.575 -20.574  11.025  1.00 29.69      B
ATOM   1923  OD1 ASN B  62      33.889 -19.794  11.680  1.00 29.42      B
ATOM   1924  ND2 ASN B  62      35.222 -20.209   9.926  1.00 31.50      B
ATOM   1925  C   ASN B  62      34.238 -23.561  13.339  1.00 32.87      B
ATOM   1926  O   ASN B  62      33.028 -23.789  13.292  1.00 34.70      B
ATOM   1927  N   SER B  63      35.128 -24.469  13.725  1.00 32.43      B
ATOM   1928  CA  SER B  63      34.705 -25.797  14.140  1.00 32.38      B
ATOM   1929  CB  SER B  63      35.818 -26.819  13.879  1.00 32.20      B
ATOM   1930  OG  SER B  63      36.905 -26.626  14.760  1.00 33.33      B
ATOM   1931  C   SER B  63      34.348 -25.768  15.630  1.00 32.14      B
ATOM   1932  O   SER B  63      33.677 -26.667  16.138  1.00 32.86      B
ATOM   1933  N   GLN B  64      34.794 -24.724  16.325  1.00 31.10      B
ATOM   1934  CA  GLN B  64      34.513 -24.569  17.752  1.00 30.99      B
ATOM   1935  CB  GLN B  64      35.661 -23.837  18.446  1.00 32.54      B
ATOM   1936  CG  GLN B  64      36.988 -24.557  18.383  1.00 34.49      B
ATOM   1937  CD  GLN B  64      36.870 -25.998  18.810  1.00 38.20      B
ATOM   1938  OE1 GLN B  64      36.629 -26.884  17.984  1.00 40.82      B
ATOM   1939  NE2 GLN B  64      37.022 -26.245  20.108  1.00 38.34      B
ATOM   1940  C   GLN B  64      33.226 -23.775  17.944  1.00 29.88      B
ATOM   1941  O   GLN B  64      33.252 -22.549  18.064  1.00 29.28      B
ATOM   1942  N   LYS B  65      32.101 -24.476  17.979  1.00 28.74      B
ATOM   1943  CA  LYS B  65      30.815 -23.812  18.123  1.00 29.18      B
ATOM   1944  CB  LYS B  65      29.688 -24.851  18.132  1.00 30.63      B
ATOM   1945  CG  LYS B  65      29.575 -25.612  16.812  1.00 32.20      B
ATOM   1946  CD  LYS B  65      29.371 -24.654  15.629  1.00 34.44      B
ATOM   1947  CE  LYS B  65      29.688 -25.327  14.284  1.00 37.24      B
ATOM   1948  NZ  LYS B  65      29.430 -24.427  13.109  1.00 37.89      B
ATOM   1949  C   LYS B  65      30.745 -22.919  19.352  1.00 28.19      B
ATOM   1950  O   LYS B  65      30.075 -21.891  19.333  1.00 28.16      B
ATOM   1951  N   ASP B  66      31.440 -23.304  20.417  1.00 27.58      B
ATOM   1952  CA  ASP B  66      31.460 -22.504  21.636  1.00 27.41      B
ATOM   1953  CB  ASP B  66      32.283 -23.208  22.727  1.00 28.45      B
ATOM   1954  CG  ASP B  66      33.559 -23.847  22.184  1.00 32.24      B
ATOM   1955  OD1 ASP B  66      33.478 -24.591  21.183  1.00 33.17      B
ATOM   1956  OD2 ASP B  66      34.642 -23.623  22.765  1.00 33.25      B
ATOM   1957  C   ASP B  66      32.050 -21.131  21.316  1.00 26.63      B
ATOM   1958  O   ASP B  66      31.468 -20.102  21.662  1.00 24.32      B
ATOM   1959  N   ILE B  67      33.198 -21.116  20.640  1.00 26.12      B
ATOM   1960  CA  ILE B  67      33.840 -19.855  20.273  1.00 26.42      B
ATOM   1961  CB  ILE B  67      35.206 -20.088  19.613  1.00 28.29      B
ATOM   1962  CG2 ILE B  67      35.859 -18.753  19.290  1.00 28.54      B
ATOM   1963  CG1 ILE B  67      36.094 -20.925  20.535  1.00 28.25      B
ATOM   1964  CD1 ILE B  67      36.319 -20.321  21.906  1.00 32.66      B
ATOM   1965  C   ILE B  67      32.968 -19.061  19.300  1.00 26.36      B
ATOM   1966  O   ILE B  67      32.747 -17.869  19.491  1.00 25.33      B
ATOM   1967  N   LEU B  68      32.472 -19.730  18.261  1.00 26.11      B
ATOM   1968  CA  LEU B  68      31.617 -19.086  17.267  1.00 26.66      B
ATOM   1969  CB  LEU B  68      31.132 -20.102  16.235  1.00 27.61      B
ATOM   1970  CG  LEU B  68      31.807 -20.171  14.872  1.00 30.12      B
ATOM   1971  CD1 LEU B  68      31.081 -21.216  14.031  1.00 33.09      B
ATOM   1972  CD2 LEU B  68      31.766 -18.812  14.190  1.00 30.01      B
ATOM   1973  C   LEU B  68      30.394 -18.415  17.878  1.00 26.81      B
ATOM   1974  O   LEU B  68      30.067 -17.280  17.541  1.00 26.19      B
ATOM   1975  N   GLU B  69      29.706 -19.135  18.756  1.00 28.87      B
ATOM   1976  CA  GLU B  69      28.509 -18.614  19.404  1.00 31.55      B
ATOM   1977  CB  GLU B  69      27.945 -19.654  20.382  1.00 35.75      B
ATOM   1978  CG  GLU B  69      27.304 -20.862  19.695  1.00 43.71      B
ATOM   1979  CD  GLU B  69      26.883 -21.954  20.673  1.00 47.92      B
ATOM   1980  OE1 GLU B  69      27.756 -22.454  21.418  1.00 49.27      B
ATOM   1981  OE2 GLU B  69      25.683 -22.316  20.694  1.00 50.44      B
ATOM   1982  C   GLU B  69      28.773 -17.295  20.130  1.00 29.82      B
ATOM   1983  O   GLU B  69      27.986 -16.356  20.027  1.00 27.91      B
ATOM   1984  N   ARG B  70      29.886 -17.226  20.855  1.00 29.32      B
ATOM   1985  CA  ARG B  70      30.239 -16.016  21.597  1.00 28.97      B
ATOM   1986  CB  ARG B  70      31.347 -16.315  22.606  1.00 28.94      B
ATOM   1987  CG  ARG B  70      30.982 -17.344  23.673  1.00 30.55      B
ATOM   1988  CD  ARG B  70      32.251 -17.810  24.371  1.00 32.35      B
ATOM   1989  NE  ARG B  70      32.040 -19.037  25.117  1.00 34.83      B
ATOM   1990  CZ  ARG B  70      32.946 -19.997  25.232  1.00 34.98      B
ATOM   1991  NH1 ARG B  70      34.131 -19.875  24.647  1.00 35.03      B
ATOM   1992  NH2 ARG B  70      32.662 -21.083  25.930  1.00 39.48      B
ATOM   1993  C   ARG B  70      30.691 -14.888  20.682  1.00 26.77      B
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ATOM   1994  O   ARG B  70      30.412 -13.725  20.951  1.00 26.95      B
ATOM   1995  N   LYS B  71      31.395 -15.235  19.608  1.00 25.97      B
ATOM   1996  CA  LYS B  71      31.885 -14.236  18.670  1.00 25.98      B
ATOM   1997  CB  LYS B  71      32.830 -14.877  17.652  1.00 27.62      B
ATOM   1998  CG  LYS B  71      33.728 -13.873  16.924  1.00 29.24      B
ATOM   1999  CD  LYS B  71      34.628 -13.137  17.909  1.00 32.14      B
ATOM   2000  CE  LYS B  71      35.430 -12.035  17.236  1.00 33.13      B
ATOM   2001  NZ  LYS B  71      36.093 -11.164  18.245  1.00 34.18      B
ATOM   2002  C   LYS B  71      30.710 -13.591  17.952  1.00 25.22      B
ATOM   2003  O   LYS B  71      30.719 -12.395  17.671  1.00 24.39      B
ATOM   2004  N   ARG B  72      29.701 -14.399  17.657  1.00 25.08      B
ATOM   2005  CA  ARG B  72      28.500 -13.922  16.989  1.00 26.32      B
ATOM   2006  CB  ARG B  72      27.628 -15.101  16.561  1.00 28.02      B
ATOM   2007  CG  ARG B  72      28.116 -15.830  15.340  1.00 28.10      B
ATOM   2008  CD  ARG B  72      27.225 -17.013  15.083  1.00 32.02      B
ATOM   2009  NE  ARG B  72      27.451 -17.583  13.766  1.00 36.46      B
ATOM   2010  CZ  ARG B  72      27.014 -18.779  13.389  1.00 38.62      B
ATOM   2011  NH1 ARG B  72      26.324 -19.538  14.238  1.00 37.88      B
ATOM   2012  NH2 ARG B  72      27.270 -19.212  12.163  1.00 38.55      B
ATOM   2013  C   ARG B  72      27.687 -13.017  17.898  1.00 24.31      B
ATOM   2014  O   ARG B  72      26.792 -12.326  17.439  1.00 24.84      B
ATOM   2015  N   ALA B  73      27.990 -13.028  19.189  1.00 26.18      B
ATOM   2016  CA  ALA B  73      27.267 -12.185  20.140  1.00 28.18      B
ATOM   2017  CB  ALA B  73      26.973 -12.974  21.418  1.00 28.97      B
ATOM   2018  C   ALA B  73      28.056 -10.916  20.472  1.00 28.97      B
ATOM   2019  O   ALA B  73      27.528  -9.977  21.066  1.00 30.50      B
ATOM   2020  N   ALA B  74      29.320 -10.882  20.070  1.00 29.65      B
ATOM   2021  CA  ALA B  74      30.170  -9.732  20.347  1.00 30.77      B
ATOM   2022  CB  ALA B  74      31.558  -9.966  19.764  1.00 30.77      B
ATOM   2023  C   ALA B  74      29.594  -8.414  19.827  1.00 31.78      B
ATOM   2024  O   ALA B  74      29.789  -7.359  20.438  1.00 32.74      B
ATOM   2025  N   VAL B  75      28.886  -8.465  18.704  1.00 31.60      B
ATOM   2026  CA  VAL B  75      28.308  -7.248  18.145  1.00 32.38      B
ATOM   2027  CB  VAL B  75      27.397  -7.539  16.929  1.00 30.51      B
ATOM   2028  CG1 VAL B  75      27.291  -6.295  16.062  1.00 31.44      B
ATOM   2029  CG2 VAL B  75      27.931  -8.696  16.137  1.00 33.08      B
ATOM   2030  C   VAL B  75      27.465  -6.529  19.201  1.00 33.07      B
ATOM   2031  O   VAL B  75      27.402  -5.302  19.218  1.00 33.54      B
ATOM   2032  N   ASP B  76      26.811  -7.302  20.065  1.00 34.70      B
ATOM   2033  CA  ASP B  76      25.971  -6.748  21.130  1.00 36.27      B
ATOM   2034  CB  ASP B  76      24.780  -7.670  21.420  1.00 38.57      B
ATOM   2035  CG  ASP B  76      23.889  -7.881  20.215  1.00 41.48      B
ATOM   2036  OD1 ASP B  76      23.335  -6.887  19.694  1.00 43.46      B
ATOM   2037  OD2 ASP B  76      23.739  -9.048  19.792  1.00 43.76      B
ATOM   2038  C   ASP B  76      26.780  -6.600  22.411  1.00 35.56      B
ATOM   2039  O   ASP B  76      26.731  -5.569  23.081  1.00 34.13      B
ATOM   2040  N   ARG B  77      27.508  -7.661  22.744  1.00 35.22      B
ATOM   2041  CA  ARG B  77      28.343  -7.708  23.937  1.00 34.49      B
ATOM   2042  CB  ARG B  77      29.071  -9.052  23.991  1.00 37.16      B
ATOM   2043  CG  ARG B  77      29.841  -9.328  25.271  1.00 40.90      B
ATOM   2044  CD  ARG B  77      30.735 -10.553  25.102  1.00 43.79      B
ATOM   2045  NE  ARG B  77      30.004 -11.743  24.665  1.00 48.65      B
ATOM   2046  CZ  ARG B  77      29.103 -12.385  25.406  1.00 51.36      B
ATOM   2047  NH1 ARG B  77      28.816 -11.949  26.626  1.00 52.34      B
ATOM   2048  NH2 ARG B  77      28.499 -13.470  24.935  1.00 50.76      B
ATOM   2049  C   ARG B  77      29.362  -6.576  23.927  1.00 32.18      B
ATOM   2050  O   ARG B  77      29.499  -5.835  24.896  1.00 32.49      B
ATOM   2051  N   VAL B  78      30.073  -6.442  22.818  1.00 30.66      B
ATOM   2052  CA  VAL B  78      31.086  -5.414  22.707  1.00 29.00      B
ATOM   2053  CB  VAL B  78      32.276  -5.917  21.867  1.00 27.82      B
ATOM   2054  CG1 VAL B  78      33.327  -4.815  21.740  1.00 25.08      B
ATOM   2055  CG2 VAL B  78      32.870  -7.160  22.504  1.00 23.27      B
ATOM   2056  C   VAL B  78      30.594  -4.093  22.113  1.00 29.33      B
ATOM   2057  O   VAL B  78      30.435  -3.104  22.831  1.00 29.83      B
ATOM   2058  N   CYS B  79      30.354  -4.091  20.804  1.00 28.42      B
ATOM   2059  CA  CYS B  79      29.927  -2.891  20.083  1.00 29.14      B
ATOM   2060  C   CYS B  79      28.724  -2.107  20.629  1.00 28.59      B
ATOM   2061  O   CYS B  79      28.883  -0.961  21.062  1.00 26.06      B
ATOM   2062  CB  CYS B  79      29.675  -3.219  18.604  1.00 29.19      B
ATOM   2063  SG  CYS B  79      31.052  -3.983  17.680  1.00 31.71      B
ATOM   2064  N   ARG B  80      27.527  -2.693  20.586  1.00 28.34      B
ATOM   2065  CA  ARG B  80      26.347  -1.980  21.071  1.00 30.77      B
ATOM   2066  CB  ARG B  80      25.079  -2.828  20.915  1.00 32.82      B
ATOM   2067  CG  ARG B  80      24.612  -2.973  19.474  1.00 35.65      B
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ATOM   2068  CD  ARG B  80      23.120  -3.273  19.387  1.00 36.01      B
ATOM   2069  NE  ARG B  80      22.649  -3.243  18.005  1.00 35.49      B
ATOM   2070  CZ  ARG B  80      22.913  -4.188  17.108  1.00 37.80      B
ATOM   2071  NH1 ARG B  80      23.640  -5.242  17.449  1.00 40.57      B
ATOM   2072  NH2 ARG B  80      22.467  -4.075  15.864  1.00 38.86      B
ATOM   2073  C   ARG B  80      26.507  -1.552  22.524  1.00 31.24      B
ATOM   2074  O   ARG B  80      25.975  -0.525  22.944  1.00 32.07      B
ATOM   2075  N   HIS B  81      27.257  -2.337  23.283  1.00 31.40      B
ATOM   2076  CA  HIS B  81      27.492  -2.028  24.683  1.00 32.20      B
ATOM   2077  CB  HIS B  81      28.220  -3.185  25.366  1.00 33.00      B
ATOM   2078  CG  HIS B  81      28.595  -2.899  26.787  1.00 37.24      B
ATOM   2079  CD2 HIS B  81      29.764  -2.490  27.335  1.00 38.05      B
ATOM   2080  ND1 HIS B  81      27.692  -2.981  27.826  1.00 39.11      B
ATOM   2081  CE1 HIS B  81      28.290  -2.635  28.952  1.00 40.49      B
ATOM   2082  NE2 HIS B  81      29.548  -2.332  28.682  1.00 39.16      B
ATOM   2083  C   HIS B  81      28.326  -0.762  24.831  1.00 30.87      B
ATOM   2084  O   HIS B  81      27.906   0.206  25.470  1.00 31.38      B
ATOM   2085  N   ASN B  82      29.511  -0.770  24.233  1.00 29.77      B
ATOM   2086  CA  ASN B  82      30.403   0.375  24.332  1.00 28.02      B
ATOM   2087  CB  ASN B  82      31.755   0.056  23.683  1.00 26.64      B
ATOM   2088  CG  ASN B  82      32.470  -1.092  24.373  1.00 25.02      B
ATOM   2089  OD1 ASN B  82      32.305  -1.305  25.572  1.00 24.06      B
ATOM   2090  ND2 ASN B  82      33.278  -1.829  23.619  1.00 26.38      B
ATOM   2091  C   ASN B  82      29.819   1.648  23.741  1.00 26.04      B
ATOM   2092  O   ASN B  82      30.163   2.747  24.174  1.00 25.71      B
ATOM   2093  N   TYR B  83      28.930   1.512  22.765  1.00 25.90      B
ATOM   2094  CA  TYR B  83      28.324   2.693  22.156  1.00 25.91      B
ATOM   2095  CB  TYR B  83      27.462   2.297  20.946  1.00 25.69      B
ATOM   2096  CG  TYR B  83      27.102   3.462  20.056  1.00 25.95      B
ATOM   2097  CD1 TYR B  83      26.022   4.294  20.353  1.00 27.11      B
ATOM   2098  CE1 TYR B  83      25.712   5.403  19.545  1.00 25.98      B
ATOM   2099  CD2 TYR B  83      27.865   3.759  18.933  1.00 27.72      B
ATOM   2100  CE2 TYR B  83      27.567   4.862  18.121  1.00 28.05      B
ATOM   2101  CZ  TYR B  83      26.493   5.680  18.434  1.00 27.73      B
ATOM   2102  OH  TYR B  83      26.225   6.781  17.645  1.00 27.55      B
ATOM   2103  C   TYR B  83      27.485   3.458  23.181  1.00 25.87      B
ATOM   2104  O   TYR B  83      27.315   4.673  23.070  1.00 26.05      B
ATOM   2105  N   GLN B  84      26.975   2.750  24.186  1.00 28.25      B
ATOM   2106  CA  GLN B  84      26.159   3.375  25.229  1.00 30.44      B
ATOM   2107  CB  GLN B  84      25.467   2.310  26.093  1.00 34.30      B
ATOM   2108  CG  GLN B  84      24.595   1.343  25.301  1.00 40.52      B
ATOM   2109  CD  GLN B  84      23.515   2.047  24.496  1.00 43.21      B
ATOM   2110  OE1 GLN B  84      23.023   1.516  23.499  1.00 46.12      B
ATOM   2111  NE2 GLN B  84      23.133   3.244  24.932  1.00 45.41      B
ATOM   2112  C   GLN B  84      27.030   4.254  26.111  1.00 29.01      B
ATOM   2113  O   GLN B  84      26.633   5.353  26.494  1.00 27.82      B
ATOM   2114  N   LEU B  85      28.219   3.757  26.436  1.00 28.32      B
ATOM   2115  CA  LEU B  85      29.150   4.505  27.263  1.00 28.76      B
ATOM   2116  CB  LEU B  85      30.355   3.631  27.631  1.00 28.92      B
ATOM   2117  CG  LEU B  85      30.065   2.226  28.184  1.00 30.98      B
ATOM   2118  CD1 LEU B  85      31.343   1.631  28.758  1.00 30.59      B
ATOM   2119  CD2 LEU B  85      29.006   2.291  29.265  1.00 31.87      B
ATOM   2120  C   LEU B  85      29.609   5.719  26.461  1.00 29.95      B
ATOM   2121  O   LEU B  85      29.836   6.798  27.010  1.00 30.93      B
ATOM   2122  N   GLU B  86      29.724   5.529  25.150  1.00 30.31      B
ATOM   2123  CA  GLU B  86      30.160   6.577  24.245  1.00 31.41      B
ATOM   2124  CB  GLU B  86      30.426   5.981  22.861  1.00 32.60      B
ATOM   2125  CG  GLU B  86      31.741   6.420  22.236  1.00 39.25      B
ATOM   2126  CD  GLU B  86      32.962   5.854  22.953  1.00 41.02      B
ATOM   2127  OE1 GLU B  86      33.379   4.714  22.636  1.00 40.75      B
ATOM   2128  OE2 GLU B  86      33.497   6.553  23.843  1.00 41.96      B
ATOM   2129  C   GLU B  86      29.113   7.684  24.146  1.00 32.44      B
ATOM   2130  O   GLU B  86      29.454   8.865  24.109  1.00 30.73      B
ATOM   2131  N   LEU B  87      27.838   7.303  24.103  1.00 33.77      B
ATOM   2132  CA  LEU B  87      26.755   8.282  24.015  1.00 34.65      B
ATOM   2133  CB  LEU B  87      25.398   7.583  23.899  1.00 34.69      B
ATOM   2134  CG  LEU B  87      24.916   7.169  22.508  1.00 36.86      B
ATOM   2135  CD1 LEU B  87      23.655   6.326  22.642  1.00 35.43      B
ATOM   2136  CD2 LEU B  87      24.645   8.411  21.660  1.00 35.76      B
ATOM   2137  C   LEU B  87      26.740   9.199  25.231  1.00 35.16      B
ATOM   2138  O   LEU B  87      26.250  10.326  25.164  1.00 34.29      B
ATOM   2139  N   ARG B  88      27.280   8.711  26.343  1.00 36.69      B
ATOM   2140  CA  ARG B  88      27.317   9.493  27.573  1.00 37.64      B
ATOM   2141  CB  ARG B  88      27.173   8.575  28.791  1.00 39.79      B
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ATOM	2142	CG	ARG	B	88	25.827	7.878	28.908	1.00	45.19	B
ATOM	2143	CD	ARG	B	88	25.704	7.173	30.253	1.00	49.04	B
ATOM	2144	NE	ARG	B	88	26.657	6.074	30.388	1.00	54.57	B
ATOM	2145	CZ	ARG	B	88	27.101	5.603	31.552	1.00	55.76	B
ATOM	2146	NH1	ARG	B	88	26.683	6.137	32.694	1.00	55.56	B
ATOM	2147	NH2	ARG	B	88	27.963	4.595	31.574	1.00	56.11	B
ATOM	2148	C	ARG	B	88	28.601	10.299	27.714	1.00	36.93	B
ATOM	2149	O	ARG	B	88	28.702	11.160	28.589	1.00	37.24	B
ATOM	2150	N	THR	B	89	29.571	10.035	26.842	1.00	35.19	B
ATOM	2151	CA	THR	B	89	30.860	10.712	26.914	1.00	31.71	B
ATOM	2152	CB	THR	B	89	31.916	9.767	27.529	1.00	31.61	B
ATOM	2153	OG1	THR	B	89	31.980	8.554	26.762	1.00	29.72	B
ATOM	2154	CG2	THR	B	89	31.557	9.436	28.963	1.00	25.87	B
ATOM	2155	C	THR	B	89	31.420	11.254	25.600	1.00	31.31	B
ATOM	2156	O	THR	B	89	31.214	12.415	25.249	1.00	32.41	B
ATOM	2157	N	THR	B	90	32.139	10.403	24.880	1.00	30.72	B
ATOM	2158	CA	THR	B	90	32.766	10.786	23.623	1.00	30.43	B
ATOM	2159	CB	THR	B	90	33.368	9.558	22.925	1.00	30.54	B
ATOM	2160	OG1	THR	B	90	34.297	8.919	23.808	1.00	33.70	B
ATOM	2161	CG2	THR	B	90	34.099	9.970	21.666	1.00	31.65	B
ATOM	2162	C	THR	B	90	31.874	11.512	22.625	1.00	30.61	B
ATOM	2163	O	THR	B	90	32.267	12.543	22.070	1.00	30.24	B
ATOM	2164	N	LEU	B	91	30.683	10.977	22.385	1.00	30.30	B
ATOM	2165	CA	LEU	B	91	29.767	11.581	21.425	1.00	31.93	B
ATOM	2166	CB	LEU	B	91	28.709	10.554	21.007	1.00	32.55	B
ATOM	2167	CG	LEU	B	91	29.268	9.315	20.292	1.00	33.01	B
ATOM	2168	CD1	LEU	B	91	28.201	8.233	20.205	1.00	33.73	B
ATOM	2169	CD2	LEU	B	91	29.761	9.700	18.902	1.00	31.26	B
ATOM	2170	C	LEU	B	91	29.096	12.872	21.907	1.00	32.38	B
ATOM	2171	O	LEU	B	91	28.402	13.534	21.139	1.00	32.08	B
ATOM	2172	N	GLN	B	92	29.303	13.229	23.173	1.00	32.44	B
ATOM	2173	CA	GLN	B	92	28.725	14.454	23.713	1.00	34.54	B
ATOM	2174	CB	GLN	B	92	28.138	14.217	25.110	1.00	38.48	B
ATOM	2175	CG	GLN	B	92	26.836	13.419	25.121	1.00	44.66	B
ATOM	2176	CD	GLN	B	92	26.233	13.291	26.516	1.00	49.27	B
ATOM	2177	OE1	GLN	B	92	25.239	12.588	26.712	1.00	51.65	B
ATOM	2178	NE2	GLN	B	92	26.832	13.975	27.491	1.00	49.93	B
ATOM	2179	C	GLN	B	92	29.779	15.557	23.777	1.00	32.86	B
ATOM	2180	O	GLN	B	92	29.457	16.721	24.019	1.00	32.19	B
ATOM	2181	N	ARG	B	93	31.038	15.187	23.555	1.00	31.53	B
ATOM	2182	CA	ARG	B	93	32.132	16.157	23.576	1.00	29.87	B
ATOM	2183	CB	ARG	B	93	33.477	15.472	23.302	1.00	28.14	B
ATOM	2184	CG	ARG	B	93	34.681	16.433	23.217	1.00	23.56	B
ATOM	2185	CD	ARG	B	93	35.953	15.656	22.925	1.00	22.53	B
ATOM	2186	NE	ARG	B	93	37.128	16.486	22.662	1.00	19.19	B
ATOM	2187	CZ	ARG	B	93	37.769	17.205	23.581	1.00	18.66	B
ATOM	2188	NH1	ARG	B	93	37.352	17.214	24.843	1.00	17.45	B
ATOM	2189	NH2	ARG	B	93	38.847	17.898	23.242	1.00	16.56	B
ATOM	2190	C	ARG	B	93	31.921	17.245	22.535	1.00	29.02	B
ATOM	2191	O	ARG	B	93	31.755	16.965	21.349	1.00	29.55	B
ATOM	2192	N	ARG	B	94	31.933	18.490	22.987	1.00	28.71	B
ATOM	2193	CA	ARG	B	94	31.767	19.613	22.087	1.00	29.63	B
ATOM	2194	CB	ARG	B	94	30.299	20.046	22.041	1.00	32.44	B
ATOM	2195	CG	ARG	B	94	29.506	19.196	21.060	1.00	37.10	B
ATOM	2196	CD	ARG	B	94	28.016	19.414	21.124	1.00	39.80	B
ATOM	2197	NE	ARG	B	94	27.350	18.742	20.008	1.00	44.04	B
ATOM	2198	CZ	ARG	B	94	27.372	17.428	19.791	1.00	44.11	B
ATOM	2199	NH1	ARG	B	94	28.026	16.625	20.617	1.00	45.60	B
ATOM	2200	NH2	ARG	B	94	26.747	16.916	18.739	1.00	44.45	B
ATOM	2201	C	ARG	B	94	32.656	20.760	22.498	1.00	28.84	B
ATOM	2202	O	ARG	B	94	32.464	21.363	23.550	1.00	29.13	B
ATOM	2203	N	VAL	B	95	33.650	21.038	21.663	1.00	27.49	B
ATOM	2204	CA	VAL	B	95	34.592	22.117	21.916	1.00	26.47	B
ATOM	2205	CB	VAL	B	95	36.047	21.605	21.890	1.00	25.65	B
ATOM	2206	CG1	VAL	B	95	37.004	22.734	22.260	1.00	22.82	B
ATOM	2207	CG2	VAL	B	95	36.202	20.423	22.849	1.00	26.01	B
ATOM	2208	C	VAL	B	95	34.415	23.180	20.840	1.00	27.00	B
ATOM	2209	O	VAL	B	95	34.721	22.945	19.665	1.00	27.00	B
ATOM	2210	N	GLU	B	96	33.912	24.340	21.253	1.00	26.94	B
ATOM	2211	CA	GLU	B	96	33.673	25.462	20.348	1.00	26.50	B
ATOM	2212	CB	GLU	B	96	33.072	26.649	21.107	1.00	29.19	B
ATOM	2213	CG	GLU	B	96	31.736	26.372	21.775	1.00	36.47	B
ATOM	2214	CD	GLU	B	96	31.211	27.582	22.537	1.00	40.45	B
ATOM	2215	OE1	GLU	B	96	30.121	27.477	23.144	1.00	42.85	B

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ATOM   2216  OE2 GLU B  96      31.891  28.634  22.526  1.00 40.11      B
ATOM   2217  C   GLU B  96      34.960  25.916  19.689  1.00 25.02      B
ATOM   2218  O   GLU B  96      35.999  26.022  20.338  1.00 24.73      B
ATOM   2219  N   PRO B  97      34.900  26.204  18.383  1.00 24.54      B
ATOM   2220  CD  PRO B  97      33.744  26.011  17.493  1.00 22.89      B
ATOM   2221  CA  PRO B  97      36.069  26.655  17.626  1.00 23.87      B
ATOM   2222  CB  PRO B  97      35.580  26.633  16.175  1.00 22.81      B
ATOM   2223  CG  PRO B  97      34.411  25.663  16.202  1.00 25.55      B
ATOM   2224  C   PRO B  97      36.498  28.061  18.021  1.00 23.80      B
ATOM   2225  O   PRO B  97      35.665  28.905  18.353  1.00 24.40      B
ATOM   2226  N   THR B  98      37.799  28.307  17.990  1.00 22.02      B
ATOM   2227  CA  THR B  98      38.306  29.634  18.266  1.00 24.00      B
ATOM   2228  CB  THR B  98      39.569  29.592  19.150  1.00 27.31      B
ATOM   2229  OG1 THR B  98      40.626  28.929  18.449  1.00 35.69      B
ATOM   2230  CG2 THR B  98      39.282  28.839  20.439  1.00 26.76      B
ATOM   2231  C   THR B  98      38.631  30.143  16.860  1.00 22.38      B
ATOM   2232  O   THR B  98      39.376  29.504  16.116  1.00 19.48      B
ATOM   2233  N   VAL B  99      38.041  31.274  16.487  1.00 21.55      B
ATOM   2234  CA  VAL B  99      38.242  31.824  15.152  1.00 21.20      B
ATOM   2235  CB  VAL B  99      36.871  32.153  14.509  1.00 21.09      B
ATOM   2236  CG1 VAL B  99      37.043  32.541  13.050  1.00 19.62      B
ATOM   2237  CG2 VAL B  99      35.950  30.944  14.625  1.00 18.29      B
ATOM   2238  C   VAL B  99      39.140  33.059  15.167  1.00 21.59      B
ATOM   2239  O   VAL B  99      38.970  33.962  15.982  1.00 21.57      B
ATOM   2240  N   THR B 100      40.099  33.084  14.252  1.00 22.65      B
ATOM   2241  CA  THR B 100      41.056  34.179  14.168  1.00 24.95      B
ATOM   2242  CB  THR B 100      42.399  33.770  14.820  1.00 26.31      B
ATOM   2243  OG1 THR B 100      42.162  33.321  16.160  1.00 30.10      B
ATOM   2244  CG2 THR B 100      43.359  34.942  14.854  1.00 29.07      B
ATOM   2245  C   THR B 100      41.329  34.556  12.717  1.00 24.61      B
ATOM   2246  O   THR B 100      41.514  33.689  11.869  1.00 23.89      B
ATOM   2247  N   ILE B 101      41.363  35.852  12.435  1.00 26.18      B
ATOM   2248  CA  ILE B 101      41.638  36.315  11.080  1.00 29.32      B
ATOM   2249  CB  ILE B 101      40.572  37.327  10.582  1.00 29.37      B
ATOM   2250  CG2 ILE B 101      40.986  37.885   9.231  1.00 29.49      B
ATOM   2251  CG1 ILE B 101      39.198  36.664  10.492  1.00 30.11      B
ATOM   2252  CD1 ILE B 101      38.110  37.605  10.002  1.00 29.81      B
ATOM   2253  C   ILE B 101      42.988  37.015  11.040  1.00 31.04      B
ATOM   2254  O   ILE B 101      43.270  37.868  11.877  1.00 31.24      B
ATOM   2255  N   SER B 102      43.820  36.664  10.066  1.00 34.47      B
ATOM   2256  CA  SER B 102      45.124  37.303   9.940  1.00 39.17      B
ATOM   2257  CB  SER B 102      46.143  36.617  10.844  1.00 37.33      B
ATOM   2258  OG  SER B 102      46.326  35.265  10.462  1.00 41.93      B
ATOM   2259  C   SER B 102      45.632  37.289   8.501  1.00 42.45      B
ATOM   2260  O   SER B 102      45.641  36.248   7.845  1.00 42.45      B
ATOM   2261  N   PRO B 103      46.052  38.455   7.988  1.00 45.38      B
ATOM   2262  CD  PRO B 103      45.938  39.793   8.596  1.00 45.47      B
ATOM   2263  CA  PRO B 103      46.564  38.545   6.617  1.00 48.91      B
ATOM   2264  CB  PRO B 103      46.446  40.032   6.312  1.00 47.74      B
ATOM   2265  CG  PRO B 103      46.739  40.652   7.642  1.00 47.08      B
ATOM   2266  C   PRO B 103      48.010  38.042   6.545  1.00 51.96      B
ATOM   2267  O   PRO B 103      48.688  37.957   7.568  1.00 52.51      B
ATOM   2268  N   SER B 104      48.475  37.699   5.346  1.00 55.84      B
ATOM   2269  CA  SER B 104      49.843  37.209   5.177  1.00 60.00      B
ATOM   2270  CB  SER B 104      50.018  36.578   3.791  1.00 59.60      B
ATOM   2271  OG  SER B 104      49.778  37.520   2.759  1.00 59.05      B
ATOM   2272  C   SER B 104      50.842  38.353   5.368  1.00 63.75      B
ATOM   2273  O   SER B 104      50.853  39.325   4.605  1.00 64.64      B
ATOM   2274  N   ARG B 105      51.677  38.228   6.398  1.00 66.99      B
ATOM   2275  CA  ARG B 105      52.674  39.242   6.736  1.00 69.17      B
ATOM   2276  CB  ARG B 105      53.631  38.700   7.808  1.00 70.33      B
ATOM   2277  CG  ARG B 105      54.672  37.690   7.318  1.00 72.24      B
ATOM   2278  CD  ARG B 105      54.073  36.586   6.449  1.00 73.51      B
ATOM   2279  NE  ARG B 105      52.981  35.859   7.095  1.00 75.02      B
ATOM   2280  CZ  ARG B 105      53.120  35.051   8.142  1.00 76.07      B
ATOM   2281  NH1 ARG B 105      54.314  34.852   8.684  1.00 77.38      B
ATOM   2282  NH2 ARG B 105      52.059  34.431   8.644  1.00 76.05      B
ATOM   2283  C   ARG B 105      53.464  39.720   5.523  1.00 70.38      B
ATOM   2284  O   ARG B 105      53.134  40.746   4.923  1.00 71.56      B
ATOM   2285  N   ASN B 113      46.629  40.478  -1.867  1.00 49.25      B
ATOM   2286  CA  ASN B 113      46.963  40.039  -0.515  1.00 48.42      B
ATOM   2287  CB  ASN B 113      46.726  41.181   0.477  1.00 51.23      B
ATOM   2288  CG  ASN B 113      47.268  40.875   1.863  1.00 53.89      B
ATOM   2289  OD1 ASN B 113      48.429  40.498   2.019  1.00 55.14      B
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ATOM	2290	ND2	ASN	B	113	46.428	41.048	2.880	1.00	55.30	B
ATOM	2291	C	ASN	B	113	46.143	38.808	-0.118	1.00	45.78	B
ATOM	2292	O	ASN	B	113	45.155	38.471	-0.774	1.00	44.99	B
ATOM	2293	N	LEU	B	114	46.550	38.146	0.961	1.00	42.27	B
ATOM	2294	CA	LEU	B	114	45.862	36.944	1.415	1.00	38.77	B
ATOM	2295	CB	LEU	B	114	46.770	35.739	1.182	1.00	39.10	B
ATOM	2296	CG	LEU	B	114	46.238	34.330	1.421	1.00	40.81	B
ATOM	2297	CD1	LEU	B	114	45.097	34.023	0.459	1.00	41.59	B
ATOM	2298	CD2	LEU	B	114	47.379	33.341	1.222	1.00	41.03	B
ATOM	2299	C	LEU	B	114	45.424	36.986	2.883	1.00	36.39	B
ATOM	2300	O	LEU	B	114	46.237	37.204	3.783	1.00	35.98	B
ATOM	2301	N	LEU	B	115	44.130	36.777	3.112	1.00	31.79	B
ATOM	2302	CA	LEU	B	115	43.576	36.766	4.460	1.00	28.77	B
ATOM	2303	CB	LEU	B	115	42.231	37.496	4.493	1.00	29.52	B
ATOM	2304	CG	LEU	B	115	42.156	38.843	5.218	1.00	30.12	B
ATOM	2305	CD1	LEU	B	115	43.281	39.751	4.764	1.00	30.28	B
ATOM	2306	CD2	LEU	B	115	40.799	39.479	4.951	1.00	28.39	B
ATOM	2307	C	LEU	B	115	43.374	35.323	4.896	1.00	27.23	B
ATOM	2308	O	LEU	B	115	42.815	34.513	4.154	1.00	25.72	B
ATOM	2309	N	VAL	B	116	43.825	35.002	6.103	1.00	24.13	B
ATOM	2310	CA	VAL	B	116	43.695	33.651	6.618	1.00	20.76	B
ATOM	2311	CB	VAL	B	116	45.078	33.098	7.078	1.00	20.02	B
ATOM	2312	CG1	VAL	B	116	44.915	31.757	7.777	1.00	17.46	B
ATOM	2313	CG2	VAL	B	116	45.996	32.944	5.880	1.00	19.44	B
ATOM	2314	C	VAL	B	116	42.723	33.568	7.784	1.00	20.38	B
ATOM	2315	O	VAL	B	116	42.860	34.293	8.766	1.00	19.54	B
ATOM	2316	N	CYS	B	117	41.724	32.701	7.669	1.00	20.87	B
ATOM	2317	CA	CYS	B	117	40.793	32.523	8.774	1.00	22.57	B
ATOM	2318	C	CYS	B	117	41.132	31.196	9.444	1.00	21.84	B
ATOM	2319	O	CYS	B	117	40.867	30.123	8.892	1.00	22.98	B
ATOM	2320	CB	CYS	B	117	39.332	32.486	8.315	1.00	23.53	B
ATOM	2321	SG	CYS	B	117	38.217	32.222	9.734	1.00	29.76	B
ATOM	2322	N	SER	B	118	41.728	31.277	10.627	1.00	19.87	B
ATOM	2323	CA	SER	B	118	42.094	30.092	11.381	1.00	18.65	B
ATOM	2324	CB	SER	B	118	43.345	30.356	12.226	1.00	19.67	B
ATOM	2325	OG	SER	B	118	44.463	30.672	11.421	1.00	22.97	B
ATOM	2326	C	SER	B	118	40.962	29.656	12.300	1.00	18.03	B
ATOM	2327	O	SER	B	118	40.579	30.389	13.209	1.00	19.82	B
ATOM	2328	N	VAL	B	119	40.426	28.463	12.050	1.00	17.57	B
ATOM	2329	CA	VAL	B	119	39.365	27.889	12.874	1.00	15.30	B
ATOM	2330	CB	VAL	B	119	38.202	27.364	12.006	1.00	15.69	B
ATOM	2331	CG1	VAL	B	119	37.091	26.852	12.892	1.00	11.64	B
ATOM	2332	CG2	VAL	B	119	37.695	28.484	11.076	1.00	13.82	B
ATOM	2333	C	VAL	B	119	40.073	26.739	13.579	1.00	15.38	B
ATOM	2334	O	VAL	B	119	40.318	25.680	12.992	1.00	16.76	B
ATOM	2335	N	THR	B	120	40.404	26.958	14.844	1.00	16.03	B
ATOM	2336	CA	THR	B	120	41.165	25.988	15.615	1.00	15.04	B
ATOM	2337	CB	THR	B	120	42.487	26.613	16.031	1.00	13.75	B
ATOM	2338	OG1	THR	B	120	42.221	27.713	16.915	1.00	17.84	B
ATOM	2339	CG2	THR	B	120	43.230	27.144	14.815	1.00	12.18	B
ATOM	2340	C	THR	B	120	40.533	25.405	16.872	1.00	17.87	B
ATOM	2341	O	THR	B	120	39.571	25.944	17.425	1.00	17.71	B
ATOM	2342	N	ASP	B	121	41.132	24.303	17.317	1.00	19.07	B
ATOM	2343	CA	ASP	B	121	40.738	23.576	18.511	1.00	20.97	B
ATOM	2344	CB	ASP	B	121	41.268	24.291	19.766	1.00	24.82	B
ATOM	2345	CG	ASP	B	121	42.797	24.330	19.831	1.00	31.04	B
ATOM	2346	OD1	ASP	B	121	43.460	23.360	19.397	1.00	30.81	B
ATOM	2347	OD2	ASP	B	121	43.339	25.333	20.346	1.00	34.38	B
ATOM	2348	C	ASP	B	121	39.238	23.293	18.679	1.00	21.27	B
ATOM	2349	O	ASP	B	121	38.629	23.671	19.683	1.00	23.00	B
ATOM	2350	N	PHE	B	122	38.641	22.613	17.710	1.00	20.38	B
ATOM	2351	CA	PHE	B	122	37.233	22.280	17.818	1.00	18.51	B
ATOM	2352	CB	PHE	B	122	36.414	22.988	16.732	1.00	16.18	B
ATOM	2353	CG	PHE	B	122	36.817	22.644	15.319	1.00	13.31	B
ATOM	2354	CD1	PHE	B	122	37.695	23.463	14.615	1.00	11.43	B
ATOM	2355	CD2	PHE	B	122	36.247	21.547	14.664	1.00	10.93	B
ATOM	2356	CE1	PHE	B	122	37.998	23.210	13.272	1.00	10.91	B
ATOM	2357	CE2	PHE	B	122	36.541	21.280	13.317	1.00	12.31	B
ATOM	2358	CZ	PHE	B	122	37.419	22.118	12.618	1.00	8.92	B
ATOM	2359	C	PHE	B	122	37.011	20.778	17.739	1.00	19.55	B
ATOM	2360	O	PHE	B	122	37.889	20.029	17.301	1.00	18.45	B
ATOM	2361	N	TYR	B	123	35.829	20.357	18.182	1.00	20.50	B
ATOM	2362	CA	TYR	B	123	35.412	18.959	18.180	1.00	21.08	B
ATOM	2363	CB	TYR	B	123	36.067	18.201	19.340	1.00	19.11	B

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ATOM   2364  CG  TYR B 123      35.919  16.702  19.228  1.00 18.56      B
ATOM   2365  CD1 TYR B 123      34.746  16.062  19.629  1.00 19.13      B
ATOM   2366  CE1 TYR B 123      34.572  14.695  19.446  1.00 17.75      B
ATOM   2367  CD2 TYR B 123      36.920  15.932  18.647  1.00 17.20      B
ATOM   2368  CE2 TYR B 123      36.762  14.566  18.455  1.00 17.38      B
ATOM   2369  CZ  TYR B 123      35.584  13.953  18.853  1.00 19.59      B
ATOM   2370  OH  TYR B 123      35.412  12.608  18.631  1.00 22.32      B
ATOM   2371  C   TYR B 123      33.896  18.957  18.351  1.00 21.83      B
ATOM   2372  O   TYR B 123      33.365  19.708  19.165  1.00 23.26      B
ATOM   2373  N   PRO B 124      33.175  18.126  17.584  1.00 21.65      B
ATOM   2374  CD  PRO B 124      31.725  17.996  17.808  1.00 23.81      B
ATOM   2375  CA  PRO B 124      33.627  17.177  16.562  1.00 22.30      B
ATOM   2376  CB  PRO B 124      32.398  16.290  16.353  1.00 21.95      B
ATOM   2377  CG  PRO B 124      31.270  17.237  16.586  1.00 23.07      B
ATOM   2378  C   PRO B 124      34.128  17.813  15.266  1.00 22.20      B
ATOM   2379  O   PRO B 124      34.204  19.035  15.149  1.00 24.43      B
ATOM   2380  N   ALA B 125      34.457  16.971  14.291  1.00 20.63      B
ATOM   2381  CA  ALA B 125      34.987  17.428  13.007  1.00 22.13      B
ATOM   2382  CB  ALA B 125      35.571  16.236  12.244  1.00 20.20      B
ATOM   2383  C   ALA B 125      34.057  18.222  12.078  1.00 22.42      B
ATOM   2384  O   ALA B 125      34.512  19.129  11.400  1.00 24.48      B
ATOM   2385  N   GLN B 126      32.772  17.893  12.036  1.00 25.59      B
ATOM   2386  CA  GLN B 126      31.845  18.598  11.147  1.00 27.46      B
ATOM   2387  CB  GLN B 126      30.414  18.101  11.357  1.00 29.99      B
ATOM   2388  CG  GLN B 126      30.283  16.595  11.480  1.00 36.21      B
ATOM   2389  CD  GLN B 126      30.625  16.102  12.870  1.00 38.28      B
ATOM   2390  OE1 GLN B 126      30.558  14.905  13.158  1.00 40.46      B
ATOM   2391  NE2 GLN B 126      30.989  17.030  13.745  1.00 40.92      B
ATOM   2392  C   GLN B 126      31.876  20.112  11.333  1.00 28.28      B
ATOM   2393  O   GLN B 126      31.571  20.627  12.410  1.00 29.36      B
ATOM   2394  N   ILE B 127      32.221  20.831  10.273  1.00 27.17      B
ATOM   2395  CA  ILE B 127      32.292  22.279  10.353  1.00 27.02      B
ATOM   2396  CB  ILE B 127      33.656  22.716  10.931  1.00 27.21      B
ATOM   2397  CG2 ILE B 127      34.767  22.453   9.898  1.00 21.63      B
ATOM   2398  CG1 ILE B 127      33.612  24.195  11.316  1.00 24.63      B
ATOM   2399  CD1 ILE B 127      34.760  24.633  12.198  1.00 25.86      B
ATOM   2400  C   ILE B 127      32.117  22.903   8.969  1.00 27.10      B
ATOM   2401  O   ILE B 127      32.393  22.258   7.956  1.00 26.58      B
ATOM   2402  N   LYS B 128      31.666  24.155   8.940  1.00 25.41      B
ATOM   2403  CA  LYS B 128      31.457  24.884   7.689  1.00 27.45      B
ATOM   2404  CB  LYS B 128      29.964  24.927   7.334  1.00 29.68      B
ATOM   2405  CG  LYS B 128      29.633  25.685   6.046  1.00 34.69      B
ATOM   2406  CD  LYS B 128      30.129  24.954   4.793  1.00 38.25      B
ATOM   2407  CE  LYS B 128      29.802  25.742   3.517  1.00 40.20      B
ATOM   2408  NZ  LYS B 128      30.281  25.071   2.271  1.00 39.87      B
ATOM   2409  C   LYS B 128      31.983  26.301   7.861  1.00 25.41      B
ATOM   2410  O   LYS B 128      31.559  27.019   8.759  1.00 26.68      B
ATOM   2411  N   VAL B 129      32.911  26.700   7.002  1.00 25.70      B
ATOM   2412  CA  VAL B 129      33.493  28.034   7.078  1.00 24.82      B
ATOM   2413  CB  VAL B 129      35.013  27.956   7.329  1.00 24.17      B
ATOM   2414  CG1 VAL B 129      35.592  29.351   7.452  1.00 22.14      B
ATOM   2415  CG2 VAL B 129      35.295  27.136   8.583  1.00 22.44      B
ATOM   2416  C   VAL B 129      33.248  28.791   5.778  1.00 25.17      B
ATOM   2417  O   VAL B 129      33.532  28.283   4.701  1.00 25.50      B
ATOM   2418  N   ARG B 130      32.724  30.007   5.884  1.00 27.21      B
ATOM   2419  CA  ARG B 130      32.445  30.814   4.701  1.00 28.49      B
ATOM   2420  CB  ARG B 130      30.931  30.920   4.470  1.00 31.77      B
ATOM   2421  CG  ARG B 130      30.239  29.591   4.183  1.00 34.92      B
ATOM   2422  CD  ARG B 130      28.927  29.813   3.432  1.00 41.30      B
ATOM   2423  NE  ARG B 130      27.834  30.254   4.291  1.00 42.15      B
ATOM   2424  CZ  ARG B 130      27.032  29.426   4.953  1.00 46.05      B
ATOM   2425  NH1 ARG B 130      27.200  28.112   4.849  1.00 45.50      B
ATOM   2426  NH2 ARG B 130      26.061  29.910   5.718  1.00 48.30      B
ATOM   2427  C   ARG B 130      33.036  32.211   4.792  1.00 27.57      B
ATOM   2428  O   ARG B 130      33.130  32.789   5.874  1.00 26.00      B
ATOM   2429  N   TRP B 131      33.440  32.744   3.645  1.00 27.37      B
ATOM   2430  CA  TRP B 131      34.004  34.085   3.571  1.00 30.27      B
ATOM   2431  CB  TRP B 131      35.281  34.083   2.737  1.00 30.21      B
ATOM   2432  CG  TRP B 131      36.532  33.844   3.521  1.00 32.32      B
ATOM   2433  CD2 TRP B 131      37.155  34.757   4.432  1.00 32.41      B
ATOM   2434  CE2 TRP B 131      38.334  34.142   4.900  1.00 33.07      B
ATOM   2435  CE3 TRP B 131      36.831  36.039   4.897  1.00 31.75      B
ATOM   2436  CD1 TRP B 131      37.333  32.741   3.478  1.00 32.80      B
ATOM   2437  NE1 TRP B 131      38.420  32.913   4.300  1.00 31.53      B
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ATOM   2438  CZ2 TRP B 131      39.193  34.764   5.812  1.00 32.82      B
ATOM   2439  CZ3 TRP B 131      37.680  36.656   5.800  1.00 32.08      B
ATOM   2440  CH2 TRP B 131      38.849  36.017   6.249  1.00 33.40      B
ATOM   2441  C   TRP B 131      33.003  35.064   2.949  1.00 32.99      B
ATOM   2442  O   TRP B 131      32.367  34.759   1.940  1.00 32.18      B
ATOM   2443  N   PHE B 132      32.879  36.242   3.550  1.00 35.48      B
ATOM   2444  CA  PHE B 132      31.962  37.263   3.058  1.00 39.35      B
ATOM   2445  CB  PHE B 132      30.856  37.501   4.077  1.00 38.14      B
ATOM   2446  CG  PHE B 132      29.843  36.407   4.123  1.00 38.39      B
ATOM   2447  CD1 PHE B 132      28.804  36.373   3.202  1.00 38.31      B
ATOM   2448  CD2 PHE B 132      29.930  35.399   5.075  1.00 38.21      B
ATOM   2449  CE1 PHE B 132      27.860  35.348   3.229  1.00 39.26      B
ATOM   2450  CE2 PHE B 132      28.992  34.369   5.111  1.00 38.83      B
ATOM   2451  CZ  PHE B 132      27.954  34.345   4.184  1.00 37.91      B
ATOM   2452  C   PHE B 132      32.650  38.583   2.755  1.00 41.59      B
ATOM   2453  O   PHE B 132      33.515  39.025   3.508  1.00 42.72      B
ATOM   2454  N   ARG B 133      32.267  39.203   1.640  1.00 45.04      B
ATOM   2455  CA  ARG B 133      32.829  40.490   1.242  1.00 48.28      B
ATOM   2456  CB  ARG B 133      32.510  40.787  -0.227  1.00 51.68      B
ATOM   2457  CG  ARG B 133      33.293  41.958  -0.829  1.00 55.78      B
ATOM   2458  CD  ARG B 133      34.787  41.655  -0.867  1.00 57.07      B
ATOM   2459  NE  ARG B 133      35.580  42.741  -1.440  1.00 59.30      B
ATOM   2460  CZ  ARG B 133      35.523  43.135  -2.710  1.00 60.93      B
ATOM   2461  NH1 ARG B 133      34.702  42.536  -3.564  1.00 61.44      B
ATOM   2462  NH2 ARG B 133      36.295  44.132  -3.128  1.00 61.77      B
ATOM   2463  C   ARG B 133      32.129  41.492   2.145  1.00 49.07      B
ATOM   2464  O   ARG B 133      32.299  41.460   3.358  1.00 51.26      B
ATOM   2465  N   ASN B 134      31.331  42.376   1.572  1.00 49.23      B
ATOM   2466  CA  ASN B 134      30.614  43.336   2.393  1.00 48.83      B
ATOM   2467  CB  ASN B 134      30.582  44.702   1.710  1.00 45.93      B
ATOM   2468  CG  ASN B 134      31.973  45.290   1.523  1.00 45.10      B
ATOM   2469  OD1 ASN B 134      32.450  45.440   0.397  1.00 41.81      B
ATOM   2470  ND2 ASN B 134      32.634  45.618   2.634  1.00 41.82      B
ATOM   2471  C   ASN B 134      29.203  42.795   2.594  1.00 50.25      B
ATOM   2472  O   ASN B 134      28.222  43.529   2.508  1.00 52.28      B
ATOM   2473  N   ASP B 135      29.122  41.496   2.868  1.00 50.15      B
ATOM   2474  CA  ASP B 135      27.847  40.819   3.072  1.00 51.07      B
ATOM   2475  C   ASP B 135      27.590  39.855   1.910  1.00 51.76      B
ATOM   2476  O   ASP B 135      26.586  39.136   1.893  1.00 51.82      B
ATOM   2477  N   GLN B 136      28.507  39.856   0.944  1.00 50.97      B
ATOM   2478  CA  GLN B 136      28.421  38.999  -0.240  1.00 51.24      B
ATOM   2479  CB  GLN B 136      28.766  39.805  -1.493  1.00 53.78      B
ATOM   2480  CG  GLN B 136      28.736  39.000  -2.783  1.00 58.16      B
ATOM   2481  CD  GLN B 136      29.675  39.559  -3.839  1.00 59.39      B
ATOM   2482  OE1 GLN B 136      30.895  39.527  -3.675  1.00 60.12      B
ATOM   2483  NE2 GLN B 136      29.110  40.078  -4.926  1.00 59.45      B
ATOM   2484  C   GLN B 136      29.395  37.825  -0.124  1.00 49.46      B
ATOM   2485  O   GLN B 136      30.607  38.026  -0.035  1.00 48.29      B
ATOM   2486  N   GLU B 137      28.873  36.603  -0.144  1.00 47.64      B
ATOM   2487  CA  GLU B 137      29.730  35.432  -0.027  1.00 46.85      B
ATOM   2488  CB  GLU B 137      28.899  34.152   0.022  1.00 47.17      B
ATOM   2489  CG  GLU B 137      29.695  32.975   0.556  1.00 50.22      B
ATOM   2490  CD  GLU B 137      28.866  31.726   0.743  1.00 52.65      B
ATOM   2491  OE1 GLU B 137      27.699  31.842   1.171  1.00 55.57      B
ATOM   2492  OE2 GLU B 137      29.391  30.623   0.478  1.00 54.41      B
ATOM   2493  C   GLU B 137      30.755  35.320  -1.149  1.00 45.23      B
ATOM   2494  O   GLU B 137      30.445  35.544  -2.314  1.00 45.04      B
ATOM   2495  N   GLU B 138      31.983  34.977  -0.776  1.00 44.63      B
ATOM   2496  CA  GLU B 138      33.078  34.808  -1.724  1.00 44.36      B
ATOM   2497  CB  GLU B 138      34.284  35.658  -1.307  1.00 45.65      B
ATOM   2498  CG  GLU B 138      34.076  37.166  -1.320  1.00 48.42      B
ATOM   2499  CD  GLU B 138      34.144  37.761  -2.717  1.00 50.71      B
ATOM   2500  OE1 GLU B 138      35.120  37.471  -3.442  1.00 51.60      B
ATOM   2501  OE2 GLU B 138      33.227  38.526  -3.086  1.00 50.99      B
ATOM   2502  C   GLU B 138      33.498  33.335  -1.740  1.00 43.68      B
ATOM   2503  O   GLU B 138      33.831  32.769  -0.697  1.00 43.53      B
ATOM   2504  N   THR B 139      33.468  32.711  -2.914  1.00 42.58      B
ATOM   2505  CA  THR B 139      33.881  31.313  -3.044  1.00 41.76      B
ATOM   2506  CB  THR B 139      32.739  30.415  -3.543  1.00 41.04      B
ATOM   2507  OG1 THR B 139      32.207  30.948  -4.759  1.00 40.71      B
ATOM   2508  CG2 THR B 139      31.641  30.325  -2.492  1.00 41.89      B
ATOM   2509  C   THR B 139      35.038  31.245  -4.026  1.00 40.93      B
ATOM   2510  O   THR B 139      35.855  30.326  -3.981  1.00 40.04      B
ATOM   2511  N   ALA B 140      35.096  32.224  -4.920  1.00 40.67      B
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ATOM   2512  CA  ALA B 140      36.179  32.305  -5.887  1.00 41.22      B
ATOM   2513  CB  ALA B 140      35.714  33.016  -7.158  1.00 41.13      B
ATOM   2514  C   ALA B 140      37.247  33.126  -5.177  1.00 41.09      B
ATOM   2515  O   ALA B 140      36.976  34.232  -4.693  1.00 43.11      B
ATOM   2516  N   GLY B 141      38.455  32.582  -5.102  1.00 39.60      B
ATOM   2517  CA  GLY B 141      39.526  33.278  -4.418  1.00 35.11      B
ATOM   2518  C   GLY B 141      39.739  32.651  -3.051  1.00 33.42      B
ATOM   2519  O   GLY B 141      40.605  33.076  -2.287  1.00 31.24      B
ATOM   2520  N   VAL B 142      38.945  31.628  -2.750  1.00 31.89      B
ATOM   2521  CA  VAL B 142      39.033  30.937  -1.470  1.00 32.27      B
ATOM   2522  CB  VAL B 142      37.645  30.790  -0.813  1.00 31.90      B
ATOM   2523  CG1 VAL B 142      37.733  29.861   0.400  1.00 32.37      B
ATOM   2524  CG2 VAL B 142      37.125  32.161  -0.402  1.00 32.53      B
ATOM   2525  C   VAL B 142      39.652  29.552  -1.564  1.00 31.26      B
ATOM   2526  O   VAL B 142      39.211  28.712  -2.343  1.00 32.44      B
ATOM   2527  N   VAL B 143      40.676  29.326  -0.752  1.00 30.76      B
ATOM   2528  CA  VAL B 143      41.357  28.045  -0.702  1.00 29.79      B
ATOM   2529  CB  VAL B 143      42.815  28.154  -1.162  1.00 29.63      B
ATOM   2530  CG1 VAL B 143      43.439  26.768  -1.212  1.00 31.60      B
ATOM   2531  CG2 VAL B 143      42.885  28.819  -2.514  1.00 33.43      B
ATOM   2532  C   VAL B 143      41.357  27.575   0.749  1.00 30.61      B
ATOM   2533  O   VAL B 143      41.665  28.338   1.667  1.00 28.64      B
ATOM   2534  N   SER B 144      41.017  26.313   0.950  1.00 29.65      B
ATOM   2535  CA  SER B 144      40.970  25.756   2.282  1.00 28.42      B
ATOM   2536  CB  SER B 144      39.541  25.325   2.605  1.00 29.23      B
ATOM   2537  OG  SER B 144      39.457  24.705   3.875  1.00 33.81      B
ATOM   2538  C   SER B 144      41.900  24.562   2.373  1.00 27.32      B
ATOM   2539  O   SER B 144      42.101  23.840   1.397  1.00 27.40      B
ATOM   2540  N   THR B 145      42.492  24.372   3.542  1.00 25.70      B
ATOM   2541  CA  THR B 145      43.364  23.227   3.755  1.00 24.82      B
ATOM   2542  CB  THR B 145      44.272  23.418   4.995  1.00 25.01      B
ATOM   2543  OG1 THR B 145      43.467  23.399   6.186  1.00 25.18      B
ATOM   2544  CG2 THR B 145      45.022  24.743   4.923  1.00 23.27      B
ATOM   2545  C   THR B 145      42.392  22.100   4.071  1.00 24.16      B
ATOM   2546  O   THR B 145      41.200  22.335   4.272  1.00 23.86      B
ATOM   2547  N   PRO B 146      42.865  20.854   4.081  1.00 23.17      B
ATOM   2548  CD  PRO B 146      44.116  20.231   3.618  1.00 22.29      B
ATOM   2549  CA  PRO B 146      41.854  19.852   4.419  1.00 23.18      B
ATOM   2550  CB  PRO B 146      42.521  18.536   4.008  1.00 24.20      B
ATOM   2551  CG  PRO B 146      43.998  18.833   4.162  1.00 22.82      B
ATOM   2552  C   PRO B 146      41.597  19.945   5.933  1.00 22.63      B
ATOM   2553  O   PRO B 146      42.213  20.766   6.625  1.00 21.32      B
ATOM   2554  N   LEU B 147      40.667  19.146   6.445  1.00 22.60      B
ATOM   2555  CA  LEU B 147      40.414  19.142   7.883  1.00 22.34      B
ATOM   2556  CB  LEU B 147      39.241  18.216   8.213  1.00 22.17      B
ATOM   2557  CG  LEU B 147      38.934  17.973   9.691  1.00 24.53      B
ATOM   2558  CD1 LEU B 147      38.629  19.288  10.368  1.00 25.95      B
ATOM   2559  CD2 LEU B 147      37.746  17.026   9.826  1.00 25.55      B
ATOM   2560  C   LEU B 147      41.710  18.609   8.515  1.00 21.99      B
ATOM   2561  O   LEU B 147      42.290  17.640   8.024  1.00 21.35      B
ATOM   2562  N   ILE B 148      42.175  19.246   9.581  1.00 20.48      B
ATOM   2563  CA  ILE B 148      43.406  18.813  10.228  1.00 19.15      B
ATOM   2564  CB  ILE B 148      44.392  19.990  10.403  1.00 21.68      B
ATOM   2565  CG2 ILE B 148      45.666  19.505  11.065  1.00 20.10      B
ATOM   2566  CG1 ILE B 148      44.728  20.609   9.041  1.00 25.04      B
ATOM   2567  CD1 ILE B 148      45.416  19.649   8.090  1.00 29.06      B
ATOM   2568  C   ILE B 148      43.160  18.208  11.603  1.00 17.56      B
ATOM   2569  O   ILE B 148      42.566  18.852  12.467  1.00 14.88      B
ATOM   2570  N   ARG B 149      43.625  16.973  11.795  1.00 15.95      B
ATOM   2571  CA  ARG B 149      43.492  16.273  13.077  1.00 17.47      B
ATOM   2572  CB  ARG B 149      43.420  14.763  12.852  1.00 16.94      B
ATOM   2573  CG  ARG B 149      43.202  13.941  14.128  1.00 20.29      B
ATOM   2574  CD  ARG B 149      43.252  12.448  13.821  1.00 21.64      B
ATOM   2575  NE  ARG B 149      42.168  12.028  12.938  1.00 21.97      B
ATOM   2576  CZ  ARG B 149      40.934  11.742  13.348  1.00 23.22      B
ATOM   2577  NH1 ARG B 149      40.015  11.374  12.471  1.00 23.89      B
ATOM   2578  NH2 ARG B 149      40.623  11.803  14.636  1.00 23.11      B
ATOM   2579  C   ARG B 149      44.720  16.603  13.937  1.00 17.66      B
ATOM   2580  O   ARG B 149      45.850  16.311  13.549  1.00 17.51      B
ATOM   2581  N   ASN B 150      44.496  17.210  15.098  1.00 16.67      B
ATOM   2582  CA  ASN B 150      45.592  17.593  15.980  1.00 16.94      B
ATOM   2583  CB  ASN B 150      45.174  18.756  16.890  1.00 15.38      B
ATOM   2584  CG  ASN B 150      44.899  20.034  16.118  1.00 18.41      B
ATOM   2585  OD1 ASN B 150      45.685  20.436  15.249  1.00 19.05      B
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ATOM   2586  ND2 ASN B 150      43.790  20.691  16.440  1.00 17.88      B
ATOM   2587  C   ASN B 150      46.116  16.452  16.841  1.00 18.47      B
ATOM   2588  O   ASN B 150      47.220  16.540  17.384  1.00 17.03      B
ATOM   2589  N   GLY B 151      45.324  15.391  16.968  1.00 17.77      B
ATOM   2590  CA  GLY B 151      45.734  14.251  17.770  1.00 19.16      B
ATOM   2591  C   GLY B 151      45.258  14.293  19.213  1.00 20.44      B
ATOM   2592  O   GLY B 151      45.198  13.264  19.877  1.00 22.31      B
ATOM   2593  N   ASP B 152      44.906  15.475  19.701  1.00 20.79      B
ATOM   2594  CA  ASP B 152      44.450  15.624  21.077  1.00 21.97      B
ATOM   2595  CB  ASP B 152      45.192  16.790  21.748  1.00 21.95      B
ATOM   2596  CG  ASP B 152      45.027  18.101  20.992  1.00 28.05      B
ATOM   2597  OD1 ASP B 152      45.764  19.060  21.300  1.00 30.94      B
ATOM   2598  OD2 ASP B 152      44.158  18.181  20.090  1.00 28.02      B
ATOM   2599  C   ASP B 152      42.939  15.847  21.175  1.00 20.51      B
ATOM   2600  O   ASP B 152      42.474  16.619  22.010  1.00 21.63      B
ATOM   2601  N   TRP B 153      42.183  15.166  20.322  1.00 19.19      B
ATOM   2602  CA  TRP B 153      40.724  15.278  20.300  1.00 16.82      B
ATOM   2603  CB  TRP B 153      40.121  14.865  21.657  1.00 15.80      B
ATOM   2604  CG  TRP B 153      40.326  13.408  22.005  1.00 16.21      B
ATOM   2605  CD2 TRP B 153      39.415  12.322  21.756  1.00 16.58      B
ATOM   2606  CE2 TRP B 153      40.047  11.134  22.188  1.00 15.08      B
ATOM   2607  CE3 TRP B 153      38.125  12.238  21.211  1.00 15.69      B
ATOM   2608  CD1 TRP B 153      41.435  12.848  22.564  1.00 14.68      B
ATOM   2609  NE1 TRP B 153      41.278  11.483  22.677  1.00 15.53      B
ATOM   2610  CZ2 TRP B 153      39.438   9.879  22.087  1.00 15.60      B
ATOM   2611  CZ3 TRP B 153      37.518  10.987  21.112  1.00 14.22      B
ATOM   2612  CH2 TRP B 153      38.176   9.827  21.549  1.00 13.89      B
ATOM   2613  C   TRP B 153      40.194  16.660  19.890  1.00 16.09      B
ATOM   2614  O   TRP B 153      39.159  17.110  20.379  1.00 14.28      B
ATOM   2615  N   THR B 154      40.929  17.342  19.020  1.00 15.11      B
ATOM   2616  CA  THR B 154      40.499  18.627  18.483  1.00 16.19      B
ATOM   2617  CB  THR B 154      41.176  19.877  19.150  1.00 18.02      B
ATOM   2618  OG1 THR B 154      42.602  19.804  19.008  1.00 19.50      B
ATOM   2619  CG2 THR B 154      40.788  20.000  20.608  1.00 15.03      B
ATOM   2620  C   THR B 154      40.908  18.602  17.024  1.00 15.24      B
ATOM   2621  O   THR B 154      41.773  17.832  16.635  1.00 15.24      B
ATOM   2622  N   PHE B 155      40.269  19.437  16.220  1.00 18.04      B
ATOM   2623  CA  PHE B 155      40.577  19.538  14.801  1.00 16.03      B
ATOM   2624  CB  PHE B 155      39.404  19.042  13.938  1.00 16.98      B
ATOM   2625  CG  PHE B 155      39.069  17.579  14.118  1.00 17.58      B
ATOM   2626  CD1 PHE B 155      38.133  17.170  15.074  1.00 18.20      B
ATOM   2627  CD2 PHE B 155      39.670  16.611  13.312  1.00 17.71      B
ATOM   2628  CE1 PHE B 155      37.799  15.810  15.223  1.00 17.81      B
ATOM   2629  CE2 PHE B 155      39.346  15.250  13.451  1.00 17.57      B
ATOM   2630  CZ  PHE B 155      38.407  14.849  14.409  1.00 16.39      B
ATOM   2631  C   PHE B 155      40.793  21.015  14.503  1.00 16.67      B
ATOM   2632  O   PHE B 155      40.532  21.870  15.352  1.00 16.84      B
ATOM   2633  N   GLN B 156      41.281  21.312  13.304  1.00 14.72      B
ATOM   2634  CA  GLN B 156      41.467  22.689  12.886  1.00 14.66      B
ATOM   2635  CB  GLN B 156      42.811  23.264  13.357  1.00 16.69      B
ATOM   2636  CG  GLN B 156      44.039  22.698  12.669  1.00 15.65      B
ATOM   2637  CD  GLN B 156      45.292  23.486  13.011  1.00 17.87      B
ATOM   2638  OE1 GLN B 156      45.477  24.617  12.555  1.00 17.56      B
ATOM   2639  NE2 GLN B 156      46.153  22.897  13.830  1.00 15.40      B
ATOM   2640  C   GLN B 156      41.398  22.722  11.371  1.00 14.00      B
ATOM   2641  O   GLN B 156      41.477  21.691  10.716  1.00 15.17      B
ATOM   2642  N   ILE B 157      41.241  23.911  10.818  1.00 15.34      B
ATOM   2643  CA  ILE B 157      41.165  24.057   9.383  1.00 17.26      B
ATOM   2644  CB  ILE B 157      39.791  23.585   8.856  1.00 16.56      B
ATOM   2645  CG2 ILE B 157      38.675  24.429   9.474  1.00 13.07      B
ATOM   2646  CG1 ILE B 157      39.765  23.649   7.326  1.00 17.72      B
ATOM   2647  CD1 ILE B 157      38.583  22.913   6.712  1.00 14.50      B
ATOM   2648  C   ILE B 157      41.379  25.523   9.074  1.00 18.67      B
ATOM   2649  O   ILE B 157      40.823  26.391   9.745  1.00 22.28      B
ATOM   2650  N   LEU B 158      42.217  25.795   8.083  1.00 18.98      B
ATOM   2651  CA  LEU B 158      42.508  27.162   7.690  1.00 20.77      B
ATOM   2652  CB  LEU B 158      44.022  27.368   7.555  1.00 22.23      B
ATOM   2653  CG  LEU B 158      44.851  27.525   8.838  1.00 26.12      B
ATOM   2654  CD1 LEU B 158      44.689  26.320   9.740  1.00 29.01      B
ATOM   2655  CD2 LEU B 158      46.311  27.701   8.465  1.00 28.46      B
ATOM   2656  C   LEU B 158      41.817  27.484   6.371  1.00 20.61      B
ATOM   2657  O   LEU B 158      41.934  26.734   5.401  1.00 19.39      B
ATOM   2658  N   VAL B 159      41.088  28.596   6.346  1.00 21.67      B
ATOM   2659  CA  VAL B 159      40.380  29.011   5.141  1.00 21.90      B
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ATOM   2660  CB  VAL B 159      38.855  29.061   5.365  1.00 22.06      B
ATOM   2661  CG1 VAL B 159      38.147  29.252   4.043  1.00 20.55      B
ATOM   2662  CG2 VAL B 159      38.381  27.766   6.009  1.00 20.83      B
ATOM   2663  C   VAL B 159      40.899  30.379   4.749  1.00 21.80      B
ATOM   2664  O   VAL B 159      40.721  31.357   5.473  1.00 20.82      B
ATOM   2665  N   MET B 160      41.555  30.416   3.592  1.00 23.56      B
ATOM   2666  CA  MET B 160      42.179  31.613   3.055  1.00 25.12      B
ATOM   2667  CB  MET B 160      43.580  31.257   2.559  1.00 26.80      B
ATOM   2668  CG  MET B 160      44.479  30.736   3.678  1.00 32.00      B
ATOM   2669  SD  MET B 160      45.850  29.700   3.145  1.00 38.02      B
ATOM   2670  CE  MET B 160      45.094  28.065   3.307  1.00 35.43      B
ATOM   2671  C   MET B 160      41.387  32.269   1.941  1.00 28.27      B
ATOM   2672  O   MET B 160      40.684  31.602   1.177  1.00 28.76      B
ATOM   2673  N   LEU B 161      41.518  33.588   1.854  1.00 29.59      B
ATOM   2674  CA  LEU B 161      40.820  34.366   0.845  1.00 32.69      B
ATOM   2675  CB  LEU B 161      39.669  35.142   1.487  1.00 30.80      B
ATOM   2676  CG  LEU B 161      39.031  36.199   0.586  1.00 31.56      B
ATOM   2677  CD1 LEU B 161      38.156  35.516  -0.460  1.00 29.64      B
ATOM   2678  CD2 LEU B 161      38.213  37.167   1.423  1.00 29.89      B
ATOM   2679  C   LEU B 161      41.755  35.349   0.154  1.00 35.59      B
ATOM   2680  O   LEU B 161      42.350  36.216   0.801  1.00 35.54      B
ATOM   2681  N   GLU B 162      41.895  35.203  -1.158  1.00 39.87      B
ATOM   2682  CA  GLU B 162      42.728  36.118  -1.927  1.00 44.05      B
ATOM   2683  CB  GLU B 162      42.995  35.565  -3.331  1.00 46.86      B
ATOM   2684  CG  GLU B 162      43.795  36.497  -4.239  1.00 50.98      B
ATOM   2685  CD  GLU B 162      45.274  36.537  -3.891  1.00 54.75      B
ATOM   2686  OE1 GLU B 162      45.604  36.802  -2.715  1.00 56.53      B
ATOM   2687  OE2 GLU B 162      46.108  36.308  -4.796  1.00 55.16      B
ATOM   2688  C   GLU B 162      41.879  37.372  -2.029  1.00 44.69      B
ATOM   2689  O   GLU B 162      40.719  37.302  -2.434  1.00 44.39      B
ATOM   2690  N   MET B 163      42.436  38.514  -1.648  1.00 46.67      B
ATOM   2691  CA  MET B 163      41.670  39.746  -1.716  1.00 49.56      B
ATOM   2692  CB  MET B 163      40.881  39.949  -0.412  1.00 51.22      B
ATOM   2693  CG  MET B 163      41.652  39.675   0.876  1.00 51.58      B
ATOM   2694  SD  MET B 163      42.910  40.901   1.274  1.00 56.87      B
ATOM   2695  CE  MET B 163      41.915  42.187   2.029  1.00 54.89      B
ATOM   2696  C   MET B 163      42.487  40.986  -2.028  1.00 51.43      B
ATOM   2697  O   MET B 163      43.717  40.988  -1.942  1.00 51.02      B
ATOM   2698  N   THR B 164      41.777  42.038  -2.412  1.00 53.70      B
ATOM   2699  CA  THR B 164      42.385  43.316  -2.738  1.00 56.61      B
ATOM   2700  CB  THR B 164      41.889  43.820  -4.116  1.00 57.48      B
ATOM   2701  OG1 THR B 164      40.457  43.744  -4.172  1.00 57.81      B
ATOM   2702  CG2 THR B 164      42.480  42.967  -5.234  1.00 57.23      B
ATOM   2703  C   THR B 164      42.012  44.318  -1.642  1.00 57.80      B
ATOM   2704  O   THR B 164      40.866  44.766  -1.555  1.00 57.08      B
ATOM   2705  N   PRO B 165      42.976  44.658  -0.770  1.00 58.98      B
ATOM   2706  CD  PRO B 165      44.315  44.055  -0.647  1.00 59.54      B
ATOM   2707  CA  PRO B 165      42.734  45.605   0.322  1.00 60.52      B
ATOM   2708  CB  PRO B 165      44.063  45.608   1.078  1.00 60.33      B
ATOM   2709  CG  PRO B 165      44.604  44.236   0.822  1.00 60.42      B
ATOM   2710  C   PRO B 165      42.347  47.002  -0.163  1.00 61.65      B
ATOM   2711  O   PRO B 165      43.149  47.698  -0.790  1.00 61.24      B
ATOM   2712  N   GLN B 166      41.110  47.395   0.126  1.00 62.45      B
ATOM   2713  CA  GLN B 166      40.598  48.709  -0.250  1.00 63.32      B
ATOM   2714  CB  GLN B 166      39.605  48.590  -1.410  1.00 65.46      B
ATOM   2715  CG  GLN B 166      40.177  47.945  -2.661  1.00 69.00      B
ATOM   2716  CD  GLN B 166      39.195  47.942  -3.819  1.00 71.19      B
ATOM   2717  OE1 GLN B 166      38.071  47.448  -3.697  1.00 72.48      B
ATOM   2718  NE2 GLN B 166      39.617  48.492  -4.954  1.00 72.65      B
ATOM   2719  C   GLN B 166      39.893  49.287   0.970  1.00 62.65      B
ATOM   2720  O   GLN B 166      39.021  48.635   1.550  1.00 62.16      B
ATOM   2721  N   ARG B 167      40.266  50.501   1.366  1.00 61.62      B
ATOM   2722  CA  ARG B 167      39.645  51.111   2.535  1.00 60.86      B
ATOM   2723  CB  ARG B 167      40.190  52.525   2.777  1.00 62.57      B
ATOM   2724  CG  ARG B 167      39.953  53.029   4.204  1.00 64.82      B
ATOM   2725  CD  ARG B 167      40.742  52.198   5.227  1.00 67.31      B
ATOM   2726  NE  ARG B 167      40.094  52.143   6.539  1.00 69.03      B
ATOM   2727  CZ  ARG B 167      40.570  51.477   7.591  1.00 69.14      B
ATOM   2728  NH1 ARG B 167      41.710  50.804   7.499  1.00 69.34      B
ATOM   2729  NH2 ARG B 167      39.897  51.471   8.735  1.00 69.52      B
ATOM   2730  C   ARG B 167      38.136  51.154   2.333  1.00 59.19      B
ATOM   2731  O   ARG B 167      37.647  51.615   1.303  1.00 58.60      B
ATOM   2732  N   GLY B 168      37.404  50.656   3.320  1.00 58.18      B
ATOM   2733  CA  GLY B 168      35.959  50.632   3.226  1.00 56.57      B
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ATOM   2734  C   GLY B 168      35.466  49.200   3.191  1.00 55.42      B
ATOM   2735  O   GLY B 168      34.306  48.924   3.495  1.00 55.98      B
ATOM   2736  N   ASP B 169      36.350  48.280   2.814  1.00 53.44      B
ATOM   2737  CA  ASP B 169      35.979  46.871   2.757  1.00 51.76      B
ATOM   2738  CB  ASP B 169      36.841  46.115   1.740  1.00 50.49      B
ATOM   2739  CG  ASP B 169      36.428  46.392   0.311  1.00 50.57      B
ATOM   2740  OD1 ASP B 169      35.207  46.479   0.060  1.00 49.92      B
ATOM   2741  OD2 ASP B 169      37.318  46.507  -0.559  1.00 49.84      B
ATOM   2742  C   ASP B 169      36.083  46.181   4.110  1.00 49.36      B
ATOM   2743  O   ASP B 169      37.066  46.343   4.836  1.00 48.92      B
ATOM   2744  N   VAL B 170      35.047  45.418   4.436  1.00 47.48      B
ATOM   2745  CA  VAL B 170      34.981  44.667   5.680  1.00 45.10      B
ATOM   2746  CB  VAL B 170      33.800  45.130   6.543  1.00 45.86      B
ATOM   2747  CG1 VAL B 170      33.702  44.268   7.795  1.00 46.26      B
ATOM   2748  CG2 VAL B 170      33.974  46.598   6.906  1.00 46.23      B
ATOM   2749  C   VAL B 170      34.787  43.191   5.342  1.00 43.62      B
ATOM   2750  O   VAL B 170      33.774  42.807   4.762  1.00 42.86      B
ATOM   2751  N   TYR B 171      35.762  42.367   5.704  1.00 41.69      B
ATOM   2752  CA  TYR B 171      35.694  40.935   5.425  1.00 38.95      B
ATOM   2753  CB  TYR B 171      37.044  40.455   4.899  1.00 37.52      B
ATOM   2754  CG  TYR B 171      37.405  41.031   3.553  1.00 38.12      B
ATOM   2755  CD1 TYR B 171      37.023  40.391   2.376  1.00 37.52      B
ATOM   2756  CE1 TYR B 171      37.342  40.923   1.131  1.00 38.06      B
ATOM   2757  CD2 TYR B 171      38.118  42.224   3.454  1.00 37.54      B
ATOM   2758  CE2 TYR B 171      38.442  42.767   2.216  1.00 38.45      B
ATOM   2759  CZ  TYR B 171      38.052  42.110   1.056  1.00 39.25      B
ATOM   2760  OH  TYR B 171      38.372  42.641  -0.172  1.00 38.84      B
ATOM   2761  C   TYR B 171      35.314  40.139   6.671  1.00 37.46      B
ATOM   2762  O   TYR B 171      35.791  40.428   7.773  1.00 34.85      B
ATOM   2763  N   THR B 172      34.452  39.140   6.501  1.00 35.06      B
ATOM   2764  CA  THR B 172      34.049  38.328   7.638  1.00 35.81      B
ATOM   2765  CB  THR B 172      32.589  38.622   8.064  1.00 38.37      B
ATOM   2766  OG1 THR B 172      31.688  38.177   7.043  1.00 42.02      B
ATOM   2767  CG2 THR B 172      32.390  40.119   8.292  1.00 39.83      B
ATOM   2768  C   THR B 172      34.182  36.830   7.406  1.00 33.71      B
ATOM   2769  O   THR B 172      33.953  36.335   6.300  1.00 32.99      B
ATOM   2770  N   CYS B 173      34.578  36.123   8.463  1.00 32.09      B
ATOM   2771  CA  CYS B 173      34.714  34.670   8.438  1.00 31.08      B
ATOM   2772  C   CYS B 173      33.497  34.183   9.200  1.00 30.92      B
ATOM   2773  O   CYS B 173      33.240  34.614  10.326  1.00 32.70      B
ATOM   2774  CB  CYS B 173      35.988  34.214   9.155  1.00 31.48      B
ATOM   2775  SG  CYS B 173      36.338  32.436   8.983  1.00 31.85      B
ATOM   2776  N   HIS B 174      32.748  33.288   8.578  1.00 30.26      B
ATOM   2777  CA  HIS B 174      31.524  32.754   9.152  1.00 29.72      B
ATOM   2778  CB  HIS B 174      30.401  32.977   8.128  1.00 30.80      B
ATOM   2779  CG  HIS B 174      29.030  32.625   8.615  1.00 32.90      B
ATOM   2780  CD2 HIS B 174      28.016  33.405   9.058  1.00 33.11      B
ATOM   2781  ND1 HIS B 174      28.551  31.332   8.621  1.00 34.85      B
ATOM   2782  CE1 HIS B 174      27.299  31.332   9.044  1.00 37.21      B
ATOM   2783  NE2 HIS B 174      26.950  32.577   9.316  1.00 34.95      B
ATOM   2784  C   HIS B 174      31.751  31.271   9.449  1.00 28.49      B
ATOM   2785  O   HIS B 174      32.080  30.494   8.554  1.00 27.69      B
ATOM   2786  N   VAL B 175      31.584  30.888  10.710  1.00 27.48      B
ATOM   2787  CA  VAL B 175      31.810  29.508  11.121  1.00 25.94      B
ATOM   2788  CB  VAL B 175      32.988  29.418  12.126  1.00 25.31      B
ATOM   2789  CG1 VAL B 175      33.147  27.982  12.629  1.00 21.10      B
ATOM   2790  CG2 VAL B 175      34.271  29.896  11.462  1.00 22.12      B
ATOM   2791  C   VAL B 175      30.606  28.821  11.748  1.00 26.58      B
ATOM   2792  O   VAL B 175      30.004  29.328  12.694  1.00 27.01      B
ATOM   2793  N   GLU B 176      30.274  27.652  11.212  1.00 27.17      B
ATOM   2794  CA  GLU B 176      29.168  26.846  11.712  1.00 28.51      B
ATOM   2795  CB  GLU B 176      28.166  26.573  10.588  1.00 32.35      B
ATOM   2796  CG  GLU B 176      27.454  27.827  10.082  1.00 38.87      B
ATOM   2797  CD  GLU B 176      26.776  27.616   8.735  1.00 42.45      B
ATOM   2798  OE1 GLU B 176      25.947  26.684   8.618  1.00 43.07      B
ATOM   2799  OE2 GLU B 176      27.075  28.386   7.794  1.00 42.94      B
ATOM   2800  C   GLU B 176      29.750  25.536  12.235  1.00 27.34      B
ATOM   2801  O   GLU B 176      30.576  24.900  11.574  1.00 26.12      B
ATOM   2802  N   HIS B 177      29.308  25.134  13.420  1.00 26.08      B
ATOM   2803  CA  HIS B 177      29.800  23.921  14.049  1.00 26.30      B
ATOM   2804  CB  HIS B 177      31.132  24.244  14.738  1.00 24.58      B
ATOM   2805  CG  HIS B 177      31.759  23.076  15.422  1.00 22.32      B
ATOM   2806  CD2 HIS B 177      32.646  22.156  14.977  1.00 21.05      B
ATOM   2807  ND1 HIS B 177      31.437  22.711  16.710  1.00 21.01      B
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ATOM	2808	CE1	HIS	B	177	32.097	21.613	17.030	1.00	23.72	B
ATOM	2809	NE2	HIS	B	177	32.838	21.255	15.995	1.00	23.87	B
ATOM	2810	C	HIS	B	177	28.762	23.413	15.057	1.00	27.87	B
ATOM	2811	O	HIS	B	177	28.059	24.205	15.672	1.00	29.54	B
ATOM	2812	N	PRO	B	178	28.654	22.085	15.237	1.00	29.57	B
ATOM	2813	CD	PRO	B	178	29.365	21.025	14.501	1.00	28.96	B
ATOM	2814	CA	PRO	B	178	27.687	21.497	16.175	1.00	31.71	B
ATOM	2815	CB	PRO	B	178	28.062	20.019	16.166	1.00	30.49	B
ATOM	2816	CG	PRO	B	178	28.503	19.810	14.769	1.00	30.01	B
ATOM	2817	C	PRO	B	178	27.649	22.071	17.595	1.00	33.29	B
ATOM	2818	O	PRO	B	178	26.619	22.020	18.256	1.00	35.00	B
ATOM	2819	N	SER	B	179	28.762	22.615	18.067	1.00	34.96	B
ATOM	2820	CA	SER	B	179	28.813	23.168	19.418	1.00	36.85	B
ATOM	2821	CB	SER	B	179	30.261	23.228	19.896	1.00	35.35	B
ATOM	2822	OG	SER	B	179	31.023	24.053	19.034	1.00	35.14	B
ATOM	2823	C	SER	B	179	28.206	24.564	19.522	1.00	38.40	B
ATOM	2824	O	SER	B	179	27.953	25.056	20.619	1.00	37.27	B
ATOM	2825	N	LEU	B	180	27.971	25.192	18.377	1.00	40.10	B
ATOM	2826	CA	LEU	B	180	27.434	26.545	18.340	1.00	41.36	B
ATOM	2827	CB	LEU	B	180	28.162	27.352	17.269	1.00	39.74	B
ATOM	2828	CG	LEU	B	180	29.677	27.432	17.422	1.00	39.93	B
ATOM	2829	CD1	LEU	B	180	30.286	28.013	16.157	1.00	39.41	B
ATOM	2830	CD2	LEU	B	180	30.021	28.279	18.636	1.00	39.61	B
ATOM	2831	C	LEU	B	180	25.944	26.633	18.078	1.00	43.85	B
ATOM	2832	O	LEU	B	180	25.449	26.125	17.072	1.00	44.25	B
ATOM	2833	N	GLN	B	181	25.230	27.289	18.984	1.00	47.20	B
ATOM	2834	CA	GLN	B	181	23.794	27.475	18.814	1.00	49.93	B
ATOM	2835	CB	GLN	B	181	23.158	27.956	20.121	1.00	52.00	B
ATOM	2836	CG	GLN	B	181	23.873	29.134	20.758	1.00	56.40	B
ATOM	2837	CD	GLN	B	181	23.263	29.538	22.084	1.00	59.03	B
ATOM	2838	OE1	GLN	B	181	22.087	29.908	22.153	1.00	60.55	B
ATOM	2839	NE2	GLN	B	181	24.059	29.468	23.149	1.00	58.44	B
ATOM	2840	C	GLN	B	181	23.635	28.522	17.715	1.00	49.23	B
ATOM	2841	O	GLN	B	181	22.712	28.465	16.906	1.00	49.91	B
ATOM	2842	N	SER	B	182	24.560	29.474	17.688	1.00	48.48	B
ATOM	2843	CA	SER	B	182	24.555	30.523	16.679	1.00	47.89	B
ATOM	2844	CB	SER	B	182	24.241	31.879	17.314	1.00	48.68	B
ATOM	2845	OG	SER	B	182	25.211	32.223	18.286	1.00	50.58	B
ATOM	2846	C	SER	B	182	25.938	30.550	16.038	1.00	45.93	B
ATOM	2847	O	SER	B	182	26.945	30.354	16.714	1.00	45.13	B
ATOM	2848	N	PRO	B	183	26.004	30.783	14.721	1.00	45.12	B
ATOM	2849	CD	PRO	B	183	24.911	31.096	13.784	1.00	44.93	B
ATOM	2850	CA	PRO	B	183	27.302	30.819	14.042	1.00	43.29	B
ATOM	2851	CB	PRO	B	183	26.923	31.070	12.581	1.00	43.70	B
ATOM	2852	CG	PRO	B	183	25.642	31.833	12.688	1.00	44.70	B
ATOM	2853	C	PRO	B	183	28.254	31.876	14.593	1.00	40.67	B
ATOM	2854	O	PRO	B	183	27.828	32.851	15.209	1.00	40.46	B
ATOM	2855	N	ILE	B	184	29.547	31.664	14.382	1.00	37.76	B
ATOM	2856	CA	ILE	B	184	30.550	32.607	14.842	1.00	35.88	B
ATOM	2857	CB	ILE	B	184	31.759	31.889	15.468	1.00	35.92	B
ATOM	2858	CG2	ILE	B	184	32.907	32.867	15.657	1.00	35.57	B
ATOM	2859	CG1	ILE	B	184	31.362	31.270	16.806	1.00	36.74	B
ATOM	2860	CD1	ILE	B	184	32.475	30.477	17.458	1.00	36.59	B
ATOM	2861	C	ILE	B	184	31.040	33.453	13.680	1.00	34.88	B
ATOM	2862	O	ILE	B	184	31.412	32.932	12.630	1.00	35.06	B
ATOM	2863	N	THR	B	185	31.043	34.764	13.876	1.00	34.50	B
ATOM	2864	CA	THR	B	185	31.500	35.675	12.845	1.00	34.32	B
ATOM	2865	CB	THR	B	185	30.356	36.592	12.341	1.00	35.40	B
ATOM	2866	OG1	THR	B	185	29.770	37.285	13.450	1.00	37.01	B
ATOM	2867	CG2	THR	B	185	29.286	35.774	11.631	1.00	35.73	B
ATOM	2868	C	THR	B	185	32.622	36.548	13.375	1.00	33.38	B
ATOM	2869	O	THR	B	185	32.559	37.050	14.494	1.00	32.86	B
ATOM	2870	N	VAL	B	186	33.652	36.713	12.560	1.00	32.69	B
ATOM	2871	CA	VAL	B	186	34.791	37.538	12.911	1.00	33.21	B
ATOM	2872	CB	VAL	B	186	36.041	36.683	13.155	1.00	33.39	B
ATOM	2873	CG1	VAL	B	186	37.212	37.570	13.516	1.00	33.93	B
ATOM	2874	CG2	VAL	B	186	35.766	35.674	14.262	1.00	33.67	B
ATOM	2875	C	VAL	B	186	35.023	38.454	11.721	1.00	34.68	B
ATOM	2876	O	VAL	B	186	35.060	37.997	10.579	1.00	32.50	B
ATOM	2877	N	GLU	B	187	35.172	39.746	11.988	1.00	36.30	B
ATOM	2878	CA	GLU	B	187	35.373	40.713	10.922	1.00	38.96	B
ATOM	2879	CB	GLU	B	187	34.484	41.937	11.154	1.00	40.90	B
ATOM	2880	CG	GLU	B	187	33.008	41.623	11.333	1.00	46.09	B
ATOM	2881	CD	GLU	B	187	32.146	42.876	11.421	1.00	48.81	B

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ATOM   2882  OE1 GLU B 187      30.909  42.739  11.545  1.00 51.77      B
ATOM   2883  OE2 GLU B 187      32.701  43.997  11.363  1.00 49.79      B
ATOM   2884  C   GLU B 187      36.816  41.175  10.784  1.00 39.59      B
ATOM   2885  O   GLU B 187      37.637  40.998  11.684  1.00 39.84      B
ATOM   2886  N   TRP B 188      37.113  41.765   9.635  1.00 39.59      B
ATOM   2887  CA  TRP B 188      38.430  42.302   9.360  1.00 40.86      B
ATOM   2888  CB  TRP B 188      39.339  41.252   8.736  1.00 38.70      B
ATOM   2889  CG  TRP B 188      40.769  41.704   8.693  1.00 37.82      B
ATOM   2890  CD2 TRP B 188      41.421  42.383   7.615  1.00 36.62      B
ATOM   2891  CE2 TRP B 188      42.748  42.640   8.023  1.00 36.31      B
ATOM   2892  CE3 TRP B 188      41.013  42.799   6.340  1.00 36.14      B
ATOM   2893  CD1 TRP B 188      41.698  41.583   9.686  1.00 37.31      B
ATOM   2894  NE1 TRP B 188      42.890  42.141   9.291  1.00 37.27      B
ATOM   2895  CZ2 TRP B 188      43.673  43.296   7.204  1.00 37.17      B
ATOM   2896  CZ3 TRP B 188      41.932  43.452   5.522  1.00 38.70      B
ATOM   2897  CH2 TRP B 188      43.249  43.694   5.960  1.00 37.13      B
ATOM   2898  C   TRP B 188      38.258  43.455   8.383  1.00 42.97      B
ATOM   2899  O   TRP B 188      37.946  43.240   7.211  1.00 42.37      B
ATOM   2900  N   ARG B 189      38.442  44.678   8.864  1.00 46.69      B
ATOM   2901  CA  ARG B 189      38.303  45.842   7.999  1.00 50.32      B
ATOM   2902  CB  ARG B 189      37.731  47.040   8.776  1.00 52.18      B
ATOM   2903  CG  ARG B 189      38.615  47.590   9.893  1.00 56.00      B
ATOM   2904  CD  ARG B 189      38.234  47.041  11.270  1.00 59.95      B
ATOM   2905  NE  ARG B 189      38.639  45.650  11.479  1.00 63.62      B
ATOM   2906  CZ  ARG B 189      39.903  45.236  11.559  1.00 64.33      B
ATOM   2907  NH1 ARG B 189      40.899  46.105  11.447  1.00 65.45      B
ATOM   2908  NH2 ARG B 189      40.172  43.951  11.760  1.00 64.46      B
ATOM   2909  C   ARG B 189      39.664  46.192   7.412  1.00 50.56      B
ATOM   2910  O   ARG B 189      40.680  46.119   8.100  1.00 50.34      B
ATOM   2911  N   ALA B 190      39.684  46.554   6.135  1.00 52.30      B
ATOM   2912  CA  ALA B 190      40.933  46.911   5.476  1.00 54.16      B
ATOM   2913  CB  ALA B 190      40.846  46.592   3.987  1.00 55.33      B
ATOM   2914  C   ALA B 190      41.238  48.392   5.679  1.00 55.19      B
ATOM   2915  O   ALA B 190      40.300  49.147   6.023  1.00 54.90      B
ATOM   2916  OXT ALA B 190      42.408  48.782   5.481  1.00 56.19      B
ATOM   2917  C   LEU C   1      32.073   1.033  33.225  1.00 35.70      C
ATOM   2918  O   LEU C   1      33.091   1.607  33.619  1.00 35.87      C
ATOM   2919  N   LEU C   1      29.791   1.906  32.702  1.00 36.17      C
ATOM   2920  CA  LEU C   1      30.699   1.409  33.777  1.00 34.35      C
ATOM   2921  N   GLN C   2      32.105   0.072  32.307  1.00 34.64      C
ATOM   2922  CA  GLN C   2      33.374  -0.359  31.737  1.00 34.20      C
ATOM   2923  C   GLN C   2      33.250  -0.823  30.294  1.00 33.55      C
ATOM   2924  O   GLN C   2      32.373  -1.610  29.955  1.00 33.68      C
ATOM   2925  N   PRO C   3      34.130  -0.329  29.418  1.00 33.74      C
ATOM   2926  CD  PRO C   3      35.226   0.632  29.639  1.00 33.81      C
ATOM   2927  CA  PRO C   3      34.064  -0.742  28.015  1.00 34.77      C
ATOM   2928  CB  PRO C   3      35.027   0.222  27.329  1.00 34.33      C
ATOM   2929  CG  PRO C   3      36.070   0.449  28.393  1.00 34.78      C
ATOM   2930  C   PRO C   3      34.508  -2.195  27.890  1.00 34.42      C
ATOM   2931  O   PRO C   3      35.435  -2.626  28.579  1.00 34.76      C
ATOM   2932  N   PHE C   4      33.837  -2.947  27.024  1.00 31.97      C
ATOM   2933  CA  PHE C   4      34.173  -4.355  26.812  1.00 32.26      C
ATOM   2934  CB  PHE C   4      32.897  -5.193  26.632  1.00 34.22      C
ATOM   2935  CG  PHE C   4      32.006  -5.235  27.852  1.00 37.02      C
ATOM   2936  CD1 PHE C   4      32.481  -4.835  29.103  1.00 38.53      C
ATOM   2937  CD2 PHE C   4      30.701  -5.726  27.756  1.00 40.29      C
ATOM   2938  CE1 PHE C   4      31.673  -4.925  30.248  1.00 40.80      C
ATOM   2939  CE2 PHE C   4      29.878  -5.824  28.891  1.00 41.19      C
ATOM   2940  CZ  PHE C   4      30.369  -5.421  30.142  1.00 40.74      C
ATOM   2941  C   PHE C   4      35.052  -4.483  25.571  1.00 29.17      C
ATOM   2942  O   PHE C   4      34.655  -4.072  24.482  1.00 30.93      C
ATOM   2943  N   PRO C   5      36.257  -5.059  25.715  1.00 26.63      C
ATOM   2944  CD  PRO C   5      36.936  -5.421  26.974  1.00 24.97      C
ATOM   2945  CA  PRO C   5      37.168  -5.217  24.577  1.00 23.69      C
ATOM   2946  CB  PRO C   5      38.527  -5.052  25.227  1.00 23.66      C
ATOM   2947  CG  PRO C   5      38.335  -5.832  26.504  1.00 23.13      C
ATOM   2948  C   PRO C   5      37.043  -6.569  23.887  1.00 22.95      C
ATOM   2949  O   PRO C   5      36.403  -7.475  24.404  1.00 22.96      C
ATOM   2950  N   GLN C   6      37.666  -6.696  22.719  1.00 23.53      C
ATOM   2951  CA  GLN C   6      37.659  -7.945  21.967  1.00 21.10      C
ATOM   2952  CB  GLN C   6      37.506  -7.670  20.475  1.00 20.90      C
ATOM   2953  CG  GLN C   6      36.170  -7.105  20.063  1.00 21.10      C
ATOM   2954  CD  GLN C   6      36.074  -6.901  18.557  1.00 22.85      C
ATOM   2955  OE1 GLN C   6      36.483  -7.760  17.773  1.00 23.94      C
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ATOM   2956  NE2 GLN C   6      35.525  -5.766  18.149  1.00 20.70      C
ATOM   2957  C   GLN C   6      38.996  -8.637  22.204  1.00 20.71      C
ATOM   2958  O   GLN C   6      40.046  -8.008  22.105  1.00 19.85      C
ATOM   2959  N   PRO C   7      38.974  -9.932  22.548  1.00 21.37      C
ATOM   2960  CD  PRO C   7      37.810 -10.710  23.017  1.00 21.21      C
ATOM   2961  CA  PRO C   7      40.215 -10.673  22.790  1.00 21.62      C
ATOM   2962  CB  PRO C   7      39.783 -11.730  23.795  1.00 21.96      C
ATOM   2963  CG  PRO C   7      38.416 -12.085  23.297  1.00 20.65      C
ATOM   2964  C   PRO C   7      40.741 -11.316  21.511  1.00 24.05      C
ATOM   2965  O   PRO C   7      39.972 -11.577  20.588  1.00 22.84      C
ATOM   2966  N   GLU C   8      42.051 -11.550  21.448  1.00 26.22      C
ATOM   2967  CA  GLU C   8      42.631 -12.215  20.292  1.00 27.00      C
ATOM   2968  CB  GLU C   8      44.038 -11.687  19.988  1.00 27.94      C
ATOM   2969  CG  GLU C   8      44.803 -12.494  18.915  1.00 28.38      C
ATOM   2970  CD  GLU C   8      44.043 -12.649  17.589  1.00 31.32      C
ATOM   2971  OE1 GLU C   8      42.980 -13.309  17.564  1.00 31.69      C
ATOM   2972  OE2 GLU C   8      44.514 -12.112  16.563  1.00 29.86      C
ATOM   2973  C   GLU C   8      42.678 -13.691  20.676  1.00 28.48      C
ATOM   2974  O   GLU C   8      42.937 -14.029  21.829  1.00 28.74      C
ATOM   2975  N   LEU C   9      42.407 -14.571  19.721  1.00 30.08      C
ATOM   2976  CA  LEU C   9      42.404 -15.998  20.002  1.00 31.21      C
ATOM   2977  CB  LEU C   9      41.313 -16.688  19.183  1.00 32.12      C
ATOM   2978  CG  LEU C   9      39.918 -16.072  19.302  1.00 33.78      C
ATOM   2979  CD1 LEU C   9      38.941 -16.866  18.457  1.00 35.00      C
ATOM   2980  CD2 LEU C   9      39.481 -16.061  20.761  1.00 35.59      C
ATOM   2981  C   LEU C   9      43.748 -16.641  19.712  1.00 31.83      C
ATOM   2982  O   LEU C   9      44.342 -16.415  18.658  1.00 30.94      C
ATOM   2983  N   PRO C  10      44.256 -17.442  20.657  1.00 33.31      C
ATOM   2984  CD  PRO C  10      43.774 -17.661  22.032  1.00 33.12      C
ATOM   2985  CA  PRO C  10      45.545 -18.097  20.439  1.00 36.08      C
ATOM   2986  CB  PRO C  10      45.926 -18.590  21.836  1.00 36.62      C
ATOM   2987  CG  PRO C  10      44.598 -18.846  22.476  1.00 35.26      C
ATOM   2988  C   PRO C  10      45.428 -19.229  19.430  1.00 37.51      C
ATOM   2989  O   PRO C  10      44.495 -20.030  19.491  1.00 39.49      C
ATOM   2990  N   TYR C  11      46.365 -19.269  18.488  1.00 38.68      C
ATOM   2991  CA  TYR C  11      46.392 -20.305  17.463  1.00 40.24      C
ATOM   2992  C   TYR C  11      47.834 -20.782  17.290  1.00 42.03      C
ATOM   2993  O   TYR C  11      48.121 -21.967  17.586  1.00 42.72      C
ATOM   2994  OXT TYR C  11      48.665 -19.949  16.870  1.00 42.75      C
ATOM   2995  CB  VAL D   2      76.722  40.050   4.030  1.00 35.81      D
ATOM   2996  CG1 VAL D   2      77.537  40.465   2.823  1.00 36.64      D
ATOM   2997  CG2 VAL D   2      76.313  38.577   3.893  1.00 37.71      D
ATOM   2998  C   VAL D   2      76.622  40.298   6.537  1.00 31.61      D
ATOM   2999  O   VAL D   2      75.696  39.494   6.653  1.00 31.96      D
ATOM   3000  N   VAL D   2      78.625  39.207   5.418  1.00 32.12      D
ATOM   3001  CA  VAL D   2      77.560  40.255   5.317  1.00 33.74      D
ATOM   3002  N   ALA D   3      76.864  41.246   7.441  1.00 29.52      D
ATOM   3003  CA  ALA D   3      76.053  41.379   8.653  1.00 27.92      D
ATOM   3004  CB  ALA D   3      76.480  40.321   9.684  1.00 27.11      D
ATOM   3005  C   ALA D   3      76.128  42.767   9.286  1.00 25.71      D
ATOM   3006  O   ALA D   3      77.050  43.540   9.016  1.00 23.11      D
ATOM   3007  N   ASP D   4      75.152  43.070  10.137  1.00 24.26      D
ATOM   3008  CA  ASP D   4      75.109  44.354  10.825  1.00 24.77      D
ATOM   3009  CB  ASP D   4      73.774  44.533  11.555  1.00 25.88      D
ATOM   3010  CG  ASP D   4      72.595  44.668  10.611  1.00 26.24      D
ATOM   3011  OD1 ASP D   4      71.449  44.489  11.080  1.00 24.74      D
ATOM   3012  OD2 ASP D   4      72.811  44.961   9.416  1.00 28.25      D
ATOM   3013  C   ASP D   4      76.230  44.407  11.857  1.00 25.96      D
ATOM   3014  O   ASP D   4      76.882  45.437  12.027  1.00 26.40      D
ATOM   3015  N   HIS D   5      76.440  43.290  12.549  1.00 24.52      D
ATOM   3016  CA  HIS D   5      77.469  43.204  13.582  1.00 24.25      D
ATOM   3017  CB  HIS D   5      76.836  43.302  14.972  1.00 23.42      D
ATOM   3018  CG  HIS D   5      76.138  44.599  15.231  1.00 26.12      D
ATOM   3019  CD2 HIS D   5      76.567  45.879  15.126  1.00 26.16      D
ATOM   3020  ND1 HIS D   5      74.830  44.667  15.657  1.00 25.67      D
ATOM   3021  CE1 HIS D   5      74.481  45.932  15.799  1.00 26.53      D
ATOM   3022  NE2 HIS D   5      75.516  46.688  15.484  1.00 25.96      D
ATOM   3023  C   HIS D   5      78.241  41.895  13.492  1.00 22.88      D
ATOM   3024  O   HIS D   5      77.657  40.835  13.258  1.00 22.31      D
ATOM   3025  N   VAL D   6      79.552  41.980  13.691  1.00 20.27      D
ATOM   3026  CA  VAL D   6      80.421  40.815  13.657  1.00 19.49      D
ATOM   3027  CB  VAL D   6      81.419  40.866  12.486  1.00 20.45      D
ATOM   3028  CG1 VAL D   6      82.357  39.674  12.564  1.00 19.85      D
ATOM   3029  CG2 VAL D   6      80.674  40.869  11.161  1.00 25.29      D
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ATOM   3030  C   VAL D   6      81.223  40.792  14.944  1.00 18.77      D
ATOM   3031  O   VAL D   6      81.767  41.812  15.352  1.00 17.70      D
ATOM   3032  N   ALA D   7      81.304  39.626  15.575  1.00 18.23      D
ATOM   3033  CA  ALA D   7      82.046  39.489  16.821  1.00 18.01      D
ATOM   3034  CB  ALA D   7      81.080  39.452  18.006  1.00 17.61      D
ATOM   3035  C   ALA D   7      82.899  38.239  16.838  1.00 17.37      D
ATOM   3036  O   ALA D   7      82.568  37.242  16.208  1.00 19.56      D
ATOM   3037  N   SER D   8      84.008  38.306  17.562  1.00 17.07      D
ATOM   3038  CA  SER D   8      84.892  37.158  17.712  1.00 15.46      D
ATOM   3039  CB  SER D   8      86.297  37.455  17.202  1.00 12.56      D
ATOM   3040  OG  SER D   8      86.324  37.492  15.789  1.00 18.97      D
ATOM   3041  C   SER D   8      84.932  36.904  19.201  1.00 16.39      D
ATOM   3042  O   SER D   8      85.613  37.614  19.951  1.00 15.61      D
ATOM   3043  N   TYR D   9      84.144  35.930  19.637  1.00 17.58      D
ATOM   3044  CA  TYR D   9      84.096  35.587  21.044  1.00 18.51      D
ATOM   3045  CB  TYR D   9      82.698  35.133  21.444  1.00 17.92      D
ATOM   3046  CG  TYR D   9      81.730  36.290  21.362  1.00 17.41      D
ATOM   3047  CD1 TYR D   9      82.056  37.523  21.928  1.00 16.27      D
ATOM   3048  CE1 TYR D   9      81.208  38.603  21.840  1.00 15.18      D
ATOM   3049  CD2 TYR D   9      80.515  36.169  20.701  1.00 17.05      D
ATOM   3050  CE2 TYR D   9      79.649  37.252  20.608  1.00 18.01      D
ATOM   3051  CZ  TYR D   9      80.005  38.466  21.181  1.00 16.67      D
ATOM   3052  OH  TYR D   9      79.157  39.543  21.104  1.00 20.30      D
ATOM   3053  C   TYR D   9      85.120  34.508  21.115  1.00 19.92      D
ATOM   3054  O   TYR D   9      84.856  33.323  21.337  1.00 17.21      D
ATOM   3055  N   GLY D  10      86.321  34.989  20.843  1.00 22.61      D
ATOM   3056  CA  GLY D  10      87.478  34.160  20.836  1.00 20.96      D
ATOM   3057  C   GLY D  10      88.358  34.354  19.624  1.00 18.79      D
ATOM   3058  O   GLY D  10      88.170  33.693  18.618  1.00 16.79      D
ATOM   3059  N   VAL D  11      89.275  35.307  19.683  1.00 17.75      D
ATOM   3060  CA  VAL D  11      90.256  35.394  18.616  1.00 16.92      D
ATOM   3061  CB  VAL D  11      90.666  36.829  18.242  1.00 17.76      D
ATOM   3062  CG1 VAL D  11      91.873  36.778  17.313  1.00 15.46      D
ATOM   3063  CG2 VAL D  11      89.522  37.544  17.544  1.00 13.00      D
ATOM   3064  C   VAL D  11      91.391  34.728  19.395  1.00 17.46      D
ATOM   3065  O   VAL D  11      91.865  35.266  20.405  1.00 18.93      D
ATOM   3066  N   ASN D  12      91.773  33.531  18.973  1.00 17.46      D
ATOM   3067  CA  ASN D  12      92.831  32.779  19.644  1.00 18.01      D
ATOM   3068  CB  ASN D  12      92.339  31.360  19.969  1.00 16.68      D
ATOM   3069  CG  ASN D  12      91.179  31.356  20.955  1.00 16.27      D
ATOM   3070  OD1 ASN D  12      91.346  30.989  22.115  1.00 14.97      D
ATOM   3071  ND2 ASN D  12      90.000  31.779  20.497  1.00 14.97      D
ATOM   3072  C   ASN D  12      94.061  32.699  18.759  1.00 18.74      D
ATOM   3073  O   ASN D  12      93.963  32.373  17.578  1.00 19.66      D
ATOM   3074  N   LEU D  13      95.221  32.969  19.344  1.00 20.75      D
ATOM   3075  CA  LEU D  13      96.471  32.949  18.600  1.00 22.59      D
ATOM   3076  CB  LEU D  13      96.841  34.387  18.234  1.00 24.32      D
ATOM   3077  CG  LEU D  13      98.215  34.672  17.632  1.00 25.29      D
ATOM   3078  CD1 LEU D  13      98.355  33.966  16.289  1.00 24.58      D
ATOM   3079  CD2 LEU D  13      98.380  36.177  17.475  1.00 23.52      D
ATOM   3080  C   LEU D  13      97.646  32.290  19.330  1.00 22.44      D
ATOM   3081  O   LEU D  13      97.900  32.578  20.494  1.00 24.67      D
ATOM   3082  N   TYR D  14      98.350  31.397  18.641  1.00 23.69      D
ATOM   3083  CA  TYR D  14      99.535  30.740  19.196  1.00 25.57      D
ATOM   3084  CB  TYR D  14      99.223  29.360  19.765  1.00 26.53      D
ATOM   3085  CG  TYR D  14     100.445  28.712  20.383  1.00 28.87      D
ATOM   3086  CD1 TYR D  14     100.872  29.057  21.668  1.00 28.57      D
ATOM   3087  CE1 TYR D  14     102.032  28.500  22.218  1.00 27.29      D
ATOM   3088  CD2 TYR D  14     101.209  27.793  19.664  1.00 29.65      D
ATOM   3089  CE2 TYR D  14     102.369  27.235  20.204  1.00 26.94      D
ATOM   3090  CZ  TYR D  14     102.773  27.592  21.477  1.00 27.22      D
ATOM   3091  OH  TYR D  14     103.914  27.039  22.008  1.00 29.69      D
ATOM   3092  C   TYR D  14     100.553  30.574  18.074  1.00 26.73      D
ATOM   3093  O   TYR D  14     100.210  30.128  16.980  1.00 27.22      D
ATOM   3094  N   GLN D  15     101.800  30.945  18.338  1.00 26.92      D
ATOM   3095  CA  GLN D  15     102.847  30.820  17.332  1.00 27.70      D
ATOM   3096  CB  GLN D  15     103.164  32.179  16.710  1.00 27.39      D
ATOM   3097  CG  GLN D  15     103.534  33.251  17.704  1.00 27.78      D
ATOM   3098  CD  GLN D  15     103.806  34.590  17.044  1.00 27.70      D
ATOM   3099  OE1 GLN D  15     103.723  35.638  17.685  1.00 31.07      D
ATOM   3100  NE2 GLN D  15     104.142  34.562  15.763  1.00 25.83      D
ATOM   3101  C   GLN D  15     104.097  30.222  17.952  1.00 28.40      D
ATOM   3102  O   GLN D  15     104.368  30.416  19.141  1.00 28.81      D
ATOM   3103  N   SER D  16     104.852  29.488  17.143  1.00 27.95      D
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ATOM   3104  CA  SER D  16     106.070  28.834  17.611  1.00 28.04      D
ATOM   3105  CB  SER D  16     106.613  27.887  16.534  1.00 25.04      D
ATOM   3106  OG  SER D  16     106.879  28.581  15.330  1.00 26.28      D
ATOM   3107  C   SER D  16     107.155  29.824  18.024  1.00 27.77      D
ATOM   3108  O   SER D  16     107.922  29.558  18.946  1.00 26.81      D
ATOM   3109  N   TYR D  17     107.221  30.965  17.351  1.00 29.70      D
ATOM   3110  CA  TYR D  17     108.228  31.953  17.694  1.00 32.41      D
ATOM   3111  CB  TYR D  17     108.248  33.086  16.672  1.00 35.15      D
ATOM   3112  CG  TYR D  17     109.440  33.986  16.864  1.00 40.80      D
ATOM   3113  CD1 TYR D  17     110.719  33.556  16.508  1.00 43.28      D
ATOM   3114  CE1 TYR D  17     111.836  34.345  16.743  1.00 44.62      D
ATOM   3115  CD2 TYR D  17     109.308  35.235  17.460  1.00 40.97      D
ATOM   3116  CE2 TYR D  17     110.419  36.032  17.702  1.00 44.83      D
ATOM   3117  CZ  TYR D  17     111.679  35.580  17.341  1.00 45.74      D
ATOM   3118  OH  TYR D  17     112.788  36.353  17.590  1.00 49.39      D
ATOM   3119  C   TYR D  17     107.954  32.525  19.084  1.00 33.13      D
ATOM   3120  O   TYR D  17     106.888  33.092  19.332  1.00 32.77      D
ATOM   3121  N   GLY D  18     108.930  32.383  19.981  1.00 32.74      D
ATOM   3122  CA  GLY D  18     108.780  32.867  21.341  1.00 31.76      D
ATOM   3123  C   GLY D  18     108.958  31.716  22.311  1.00 32.63      D
ATOM   3124  O   GLY D  18     110.005  31.600  22.948  1.00 34.20      D
ATOM   3125  N   PRO D  19     107.946  30.840  22.452  1.00 33.13      D
ATOM   3126  CD  PRO D  19     108.029  29.606  23.256  1.00 31.73      D
ATOM   3127  CA  PRO D  19     106.663  30.906  21.741  1.00 32.71      D
ATOM   3128  CB  PRO D  19     106.115  29.492  21.903  1.00 33.20      D
ATOM   3129  CG  PRO D  19     106.591  29.128  23.280  1.00 31.76      D
ATOM   3130  C   PRO D  19     105.768  31.948  22.406  1.00 32.52      D
ATOM   3131  O   PRO D  19     105.970  32.282  23.568  1.00 33.11      D
ATOM   3132  N   SER D  20     104.786  32.463  21.676  1.00 31.92      D
ATOM   3133  CA  SER D  20     103.886  33.455  22.246  1.00 30.99      D
ATOM   3134  CB  SER D  20     104.287  34.867  21.795  1.00 30.92      D
ATOM   3135  OG  SER D  20     104.263  34.988  20.381  1.00 33.16      D
ATOM   3136  C   SER D  20     102.441  33.172  21.852  1.00 30.01      D
ATOM   3137  O   SER D  20     102.179  32.428  20.902  1.00 29.42      D
ATOM   3138  N   GLY D  21     101.512  33.763  22.598  1.00 27.60      D
ATOM   3139  CA  GLY D  21     100.101  33.580  22.318  1.00 25.70      D
ATOM   3140  C   GLY D  21      99.309  34.836  22.632  1.00 24.66      D
ATOM   3141  O   GLY D  21      99.848  35.798  23.187  1.00 23.84      D
ATOM   3142  N   GLN D  22      98.030  34.834  22.268  1.00 22.55      D
ATOM   3143  CA  GLN D  22      97.149  35.974  22.527  1.00 20.16      D
ATOM   3144  CB  GLN D  22      97.301  37.049  21.445  1.00 18.28      D
ATOM   3145  CG  GLN D  22      96.416  38.284  21.672  1.00 18.60      D
ATOM   3146  CD  GLN D  22      96.513  39.327  20.562  1.00 18.36      D
ATOM   3147  OE1 GLN D  22      97.379  40.207  20.587  1.00 19.82      D
ATOM   3148  NE2 GLN D  22      95.617  39.232  19.582  1.00 17.69      D
ATOM   3149  C   GLN D  22      95.699  35.517  22.561  1.00 18.61      D
ATOM   3150  O   GLN D  22      95.301  34.638  21.790  1.00 17.26      D
ATOM   3151  N   TYR D  23      94.926  36.097  23.475  1.00 16.42      D
ATOM   3152  CA  TYR D  23      93.507  35.785  23.592  1.00 16.21      D
ATOM   3153  CB  TYR D  23      93.212  34.839  24.762  1.00 14.97      D
ATOM   3154  CG  TYR D  23      91.750  34.438  24.798  1.00 14.24      D
ATOM   3155  CD1 TYR D  23      91.309  33.318  24.109  1.00 14.49      D
ATOM   3156  CE1 TYR D  23      89.969  33.004  24.029  1.00 14.23      D
ATOM   3157  CD2 TYR D  23      90.795  35.240  25.421  1.00 13.21      D
ATOM   3158  CE2 TYR D  23      89.443  34.934  25.344  1.00 13.08      D
ATOM   3159  CZ  TYR D  23      89.039  33.814  24.647  1.00 12.88      D
ATOM   3160  OH  TYR D  23      87.710  33.471  24.566  1.00 16.44      D
ATOM   3161  C   TYR D  23      92.751  37.089  23.806  1.00 15.56      D
ATOM   3162  O   TYR D  23      93.014  37.817  24.763  1.00 16.57      D
ATOM   3163  N   THR D  24      91.811  37.377  22.914  1.00 14.11      D
ATOM   3164  CA  THR D  24      91.026  38.598  22.995  1.00 13.31      D
ATOM   3165  CB  THR D  24      91.606  39.692  22.071  1.00 16.07      D
ATOM   3166  OG1 THR D  24      91.682  39.176  20.734  1.00 17.94      D
ATOM   3167  CG2 THR D  24      92.992  40.116  22.514  1.00 13.19      D
ATOM   3168  C   THR D  24      89.604  38.342  22.519  1.00 12.68      D
ATOM   3169  O   THR D  24      89.306  37.287  21.994  1.00 15.13      D
ATOM   3170  N   HIS D  25      88.726  39.312  22.727  1.00 13.47      D
ATOM   3171  CA  HIS D  25      87.360  39.224  22.229  1.00 13.83      D
ATOM   3172  CB  HIS D  25      86.326  39.132  23.346  1.00 11.26      D
ATOM   3173  CG  HIS D  25      86.053  37.727  23.785  1.00 14.42      D
ATOM   3174  CD2 HIS D  25      86.815  36.610  23.723  1.00 12.09      D
ATOM   3175  ND1 HIS D  25      84.876  37.351  24.392  1.00 15.93      D
ATOM   3176  CE1 HIS D  25      84.922  36.064  24.685  1.00 14.24      D
ATOM   3177  NE2 HIS D  25      86.089  35.591  24.289  1.00 13.67      D
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ATOM   3178  C   HIS D  25      87.158  40.495  21.436  1.00 13.30      D
ATOM   3179  O   HIS D  25      87.573  41.563  21.859  1.00 13.77      D
ATOM   3180  N   GLU D  26      86.544  40.376  20.271  1.00 15.40      D
ATOM   3181  CA  GLU D  26      86.318  41.540  19.434  1.00 16.53      D
ATOM   3182  CB  GLU D  26      87.109  41.396  18.133  1.00 14.47      D
ATOM   3183  CG  GLU D  26      88.627  41.460  18.277  1.00 14.81      D
ATOM   3184  CD  GLU D  26      89.341  41.205  16.947  1.00 19.22      D
ATOM   3185  OE1 GLU D  26      88.726  41.429  15.884  1.00 22.84      D
ATOM   3186  OE2 GLU D  26      90.512  40.792  16.953  1.00 17.41      D
ATOM   3187  C   GLU D  26      84.841  41.721  19.111  1.00 17.28      D
ATOM   3188  O   GLU D  26      84.073  40.760  19.100  1.00 16.62      D
ATOM   3189  N   PHE D  27      84.455  42.971  18.879  1.00 19.63      D
ATOM   3190  CA  PHE D  27      83.092  43.313  18.494  1.00 19.71      D
ATOM   3191  CB  PHE D  27      82.231  43.722  19.684  1.00 21.05      D
ATOM   3192  CG  PHE D  27      80.758  43.816  19.348  1.00 24.29      D
ATOM   3193  CD1 PHE D  27      79.971  42.668  19.278  1.00 23.22      D
ATOM   3194  CD2 PHE D  27      80.169  45.047  19.073  1.00 22.47      D
ATOM   3195  CE1 PHE D  27      78.617  42.744  18.940  1.00 24.89      D
ATOM   3196  CE2 PHE D  27      78.818  45.132  18.733  1.00 24.72      D
ATOM   3197  CZ  PHE D  27      78.041  43.980  18.667  1.00 22.80      D
ATOM   3198  C   PHE D  27      83.182  44.482  17.532  1.00 18.41      D
ATOM   3199  O   PHE D  27      83.700  45.545  17.879  1.00 19.21      D
ATOM   3200  N   ASP D  28      82.680  44.272  16.321  1.00 18.46      D
ATOM   3201  CA  ASP D  28      82.700  45.284  15.272  1.00 18.63      D
ATOM   3202  CB  ASP D  28      81.702  46.404  15.568  1.00 19.29      D
ATOM   3203  CG  ASP D  28      80.268  45.981  15.305  1.00 22.52      D
ATOM   3204  OD1 ASP D  28      80.076  44.885  14.738  1.00 23.13      D
ATOM   3205  OD2 ASP D  28      79.333  46.736  15.651  1.00 24.61      D
ATOM   3206  C   ASP D  28      84.075  45.865  15.037  1.00 17.83      D
ATOM   3207  O   ASP D  28      84.225  47.069  14.860  1.00 20.60      D
ATOM   3208  N   GLY D  29      85.079  44.997  15.042  1.00 18.44      D
ATOM   3209  CA  GLY D  29      86.439  45.431  14.788  1.00 19.49      D
ATOM   3210  C   GLY D  29      87.218  46.011  15.949  1.00 18.93      D
ATOM   3211  O   GLY D  29      88.382  46.359  15.784  1.00 19.51      D
ATOM   3212  N   ASP D  30      86.595  46.122  17.117  1.00 17.91      D
ATOM   3213  CA  ASP D  30      87.279  46.667  18.288  1.00 17.21      D
ATOM   3214  CB  ASP D  30      86.499  47.858  18.831  1.00 15.85      D
ATOM   3215  CG  ASP D  30      86.594  49.060  17.924  1.00 18.96      D
ATOM   3216  OD1 ASP D  30      87.731  49.515  17.668  1.00 18.56      D
ATOM   3217  OD2 ASP D  30      85.541  49.544  17.466  1.00 19.00      D
ATOM   3218  C   ASP D  30      87.491  45.629  19.389  1.00 17.20      D
ATOM   3219  O   ASP D  30      86.651  44.763  19.621  1.00 15.68      D
ATOM   3220  N   GLU D  31      88.629  45.739  20.062  1.00 18.79      D
ATOM   3221  CA  GLU D  31      89.015  44.829  21.131  1.00 17.52      D
ATOM   3222  CB  GLU D  31      90.531  44.947  21.363  1.00 19.03      D
ATOM   3223  CG  GLU D  31      91.074  44.215  22.579  1.00 22.08      D
ATOM   3224  CD  GLU D  31      92.596  44.254  22.653  1.00 25.29      D
ATOM   3225  OE1 GLU D  31      93.198  45.159  22.041  1.00 26.54      D
ATOM   3226  OE2 GLU D  31      93.193  43.387  23.331  1.00 25.19      D
ATOM   3227  C   GLU D  31      88.248  45.109  22.421  1.00 17.80      D
ATOM   3228  O   GLU D  31      88.360  46.195  23.004  1.00 16.81      D
ATOM   3229  N   GLN D  32      87.478  44.118  22.862  1.00 15.25      D
ATOM   3230  CA  GLN D  32      86.685  44.230  24.085  1.00 15.53      D
ATOM   3231  CB  GLN D  32      85.502  43.260  24.044  1.00 12.86      D
ATOM   3232  CG  GLN D  32      84.391  43.680  23.101  1.00 13.72      D
ATOM   3233  CD  GLN D  32      83.233  42.708  23.111  1.00 16.53      D
ATOM   3234  OE1 GLN D  32      83.407  41.526  22.838  1.00 20.27      D
ATOM   3235  NE2 GLN D  32      82.044  43.203  23.423  1.00 17.48      D
ATOM   3236  C   GLN D  32      87.528  43.956  25.329  1.00 16.00      D
ATOM   3237  O   GLN D  32      87.356  44.603  26.366  1.00 15.18      D
ATOM   3238  N   PHE D  33      88.423  42.981  25.222  1.00 16.17      D
ATOM   3239  CA  PHE D  33      89.315  42.638  26.321  1.00 15.74      D
ATOM   3240  CB  PHE D  33      88.520  42.083  27.515  1.00 15.40      D
ATOM   3241  CG  PHE D  33      87.969  40.693  27.307  1.00 15.83      D
ATOM   3242  CD1 PHE D  33      88.781  39.572  27.480  1.00 16.23      D
ATOM   3243  CD2 PHE D  33      86.625  40.503  26.977  1.00 17.27      D
ATOM   3244  CE1 PHE D  33      88.262  38.282  27.332  1.00 15.79      D
ATOM   3245  CE2 PHE D  33      86.088  39.218  26.827  1.00 15.20      D
ATOM   3246  CZ  PHE D  33      86.909  38.108  27.006  1.00 17.77      D
ATOM   3247  C   PHE D  33      90.330  41.614  25.860  1.00 15.28      D
ATOM   3248  O   PHE D  33      90.157  40.979  24.825  1.00 15.16      D
ATOM   3249  N   TYR D  34      91.405  41.476  26.620  1.00 15.54      D
ATOM   3250  CA  TYR D  34      92.414  40.480  26.314  1.00 16.00      D
ATOM   3251  CB  TYR D  34      93.649  41.124  25.670  1.00 17.46      D
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ATOM   3252  CG  TYR D  34      94.508  41.970  26.588  1.00 20.90      D
ATOM   3253  CD1 TYR D  34      95.488  41.390  27.391  1.00 21.91      D
ATOM   3254  CE1 TYR D  34      96.295  42.174  28.221  1.00 24.17      D
ATOM   3255  CD2 TYR D  34      94.351  43.354  26.638  1.00 20.26      D
ATOM   3256  CE2 TYR D  34      95.147  44.141  27.463  1.00 24.97      D
ATOM   3257  CZ  TYR D  34      96.117  43.546  28.251  1.00 23.87      D
ATOM   3258  OH  TYR D  34      96.904  44.326  29.065  1.00 26.29      D
ATOM   3259  C   TYR D  34      92.766  39.836  27.642  1.00 16.56      D
ATOM   3260  O   TYR D  34      92.476  40.386  28.699  1.00 15.36      D
ATOM   3261  N   VAL D  35      93.354  38.653  27.586  1.00 18.29      D
ATOM   3262  CA  VAL D  35      93.768  37.971  28.795  1.00 19.11      D
ATOM   3263  CB  VAL D  35      93.257  36.514  28.842  1.00 17.61      D
ATOM   3264  CG1 VAL D  35      93.910  35.780  29.992  1.00 17.99      D
ATOM   3265  CG2 VAL D  35      91.744  36.493  29.003  1.00 17.82      D
ATOM   3266  C   VAL D  35      95.290  37.950  28.813  1.00 19.96      D
ATOM   3267  O   VAL D  35      95.914  37.492  27.866  1.00 17.73      D
ATOM   3268  N   ASP D  36      95.883  38.473  29.880  1.00 22.63      D
ATOM   3269  CA  ASP D  36      97.333  38.456  30.005  1.00 24.79      D
ATOM   3270  CB  ASP D  36      97.795  39.409  31.106  1.00 26.41      D
ATOM   3271  CG  ASP D  36      99.298  39.574  31.131  1.00 30.12      D
ATOM   3272  OD1 ASP D  36     100.002  38.547  31.252  1.00 32.04      D
ATOM   3273  OD2 ASP D  36      99.776  40.726  31.028  1.00 32.20      D
ATOM   3274  C   ASP D  36      97.650  37.011  30.389  1.00 25.23      D
ATOM   3275  O   ASP D  36      97.349  36.575  31.502  1.00 25.21      D
ATOM   3276  N   LEU D  37      98.236  36.272  29.455  1.00 23.64      D
ATOM   3277  CA  LEU D  37      98.549  34.870  29.676  1.00 25.25      D
ATOM   3278  CB  LEU D  37      98.992  34.232  28.355  1.00 21.08      D
ATOM   3279  CG  LEU D  37      97.955  34.360  27.225  1.00 20.24      D
ATOM   3280  CD1 LEU D  37      98.568  33.934  25.899  1.00 17.23      D
ATOM   3281  CD2 LEU D  37      96.730  33.516  27.541  1.00 19.11      D
ATOM   3282  C   LEU D  37      99.590  34.626  30.770  1.00 27.73      D
ATOM   3283  O   LEU D  37      99.464  33.682  31.554  1.00 27.92      D
ATOM   3284  N   GLY D  38     100.608  35.474  30.837  1.00 29.31      D
ATOM   3285  CA  GLY D  38     101.629  35.292  31.851  1.00 30.44      D
ATOM   3286  C   GLY D  38     101.141  35.640  33.242  1.00 32.52      D
ATOM   3287  O   GLY D  38     101.502  34.986  34.220  1.00 34.37      D
ATOM   3288  N   ARG D  39     100.309  36.669  33.335  1.00 35.10      D
ATOM   3289  CA  ARG D  39      99.786  37.103  34.623  1.00 36.92      D
ATOM   3290  CB  ARG D  39      99.693  38.632  34.653  1.00 39.96      D
ATOM   3291  CG  ARG D  39     101.011  39.318  34.301  1.00 44.57      D
ATOM   3292  CD  ARG D  39     101.006  40.798  34.667  1.00 49.71      D
ATOM   3293  NE  ARG D  39     102.240  41.484  34.270  1.00 53.08      D
ATOM   3294  CZ  ARG D  39     103.460  41.164  34.698  1.00 55.33      D
ATOM   3295  NH1 ARG D  39     103.635  40.158  35.546  1.00 56.98      D
ATOM   3296  NH2 ARG D  39     104.512  41.859  34.282  1.00 56.80      D
ATOM   3297  C   ARG D  39      98.429  36.476  34.924  1.00 35.86      D
ATOM   3298  O   ARG D  39      97.886  36.630  36.022  1.00 35.27      D
ATOM   3299  N   LYS D  40      97.893  35.757  33.944  1.00 34.51      D
ATOM   3300  CA  LYS D  40      96.602  35.095  34.090  1.00 33.49      D
ATOM   3301  CB  LYS D  40      96.714  33.939  35.088  1.00 34.77      D
ATOM   3302  CG  LYS D  40      95.482  33.040  35.133  1.00 41.38      D
ATOM   3303  CD  LYS D  40      95.703  31.839  36.046  1.00 45.02      D
ATOM   3304  CE  LYS D  40      94.443  31.001  36.185  1.00 46.54      D
ATOM   3305  NZ  LYS D  40      94.652  29.853  37.112  1.00 48.98      D
ATOM   3306  C   LYS D  40      95.511  36.064  34.542  1.00 30.95      D
ATOM   3307  O   LYS D  40      94.780  35.794  35.492  1.00 28.23      D
ATOM   3308  N   GLU D  41      95.401  37.197  33.858  1.00 30.54      D
ATOM   3309  CA  GLU D  41      94.384  38.175  34.210  1.00 30.41      D
ATOM   3310  CB  GLU D  41      94.980  39.302  35.078  1.00 34.10      D
ATOM   3311  CG  GLU D  41      96.180  40.034  34.488  1.00 41.52      D
ATOM   3312  CD  GLU D  41      96.834  40.997  35.482  1.00 45.72      D
ATOM   3313  OE1 GLU D  41      97.826  41.665  35.108  1.00 48.68      D
ATOM   3314  OE2 GLU D  41      96.362  41.086  36.638  1.00 47.60      D
ATOM   3315  C   GLU D  41      93.651  38.766  33.014  1.00 28.03      D
ATOM   3316  O   GLU D  41      94.220  38.981  31.940  1.00 25.49      D
ATOM   3317  N   THR D  42      92.364  39.006  33.226  1.00 25.48      D
ATOM   3318  CA  THR D  42      91.488  39.582  32.224  1.00 23.42      D
ATOM   3319  CB  THR D  42      90.035  39.187  32.511  1.00 22.07      D
ATOM   3320  OG1 THR D  42      89.927  37.761  32.468  1.00 18.54      D
ATOM   3321  CG2 THR D  42      89.087  39.817  31.497  1.00 20.32      D
ATOM   3322  C   THR D  42      91.615  41.098  32.301  1.00 22.29      D
ATOM   3323  O   THR D  42      91.492  41.680  33.373  1.00 21.54      D
ATOM   3324  N   VAL D  43      91.874  41.736  31.167  1.00 21.50      D
ATOM   3325  CA  VAL D  43      92.004  43.183  31.136  1.00 19.88      D
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ATOM   3326  CB  VAL D  43      93.428  43.584  30.697  1.00 21.56      D
ATOM   3327  CG1 VAL D  43      93.620  45.091  30.828  1.00 20.99      D
ATOM   3328  CG2 VAL D  43      94.456  42.827  31.539  1.00 19.79      D
ATOM   3329  C   VAL D  43      90.968  43.744  30.164  1.00 20.50      D
ATOM   3330  O   VAL D  43      91.045  43.513  28.959  1.00 19.49      D
ATOM   3331  N   TRP D  44      89.987  44.466  30.690  1.00 21.49      D
ATOM   3332  CA  TRP D  44      88.946  45.028  29.836  1.00 22.88      D
ATOM   3333  CB  TRP D  44      87.685  45.326  30.649  1.00 21.57      D
ATOM   3334  CG  TRP D  44      87.167  44.129  31.372  1.00 21.99      D
ATOM   3335  CD2 TRP D  44      86.280  43.125  30.854  1.00 22.20      D
ATOM   3336  CE2 TRP D  44      86.119  42.150  31.862  1.00 22.19      D
ATOM   3337  CE3 TRP D  44      85.611  42.951  29.634  1.00 20.96      D
ATOM   3338  CD1 TRP D  44      87.492  43.736  32.633  1.00 23.17      D
ATOM   3339  NE1 TRP D  44      86.868  42.548  32.937  1.00 23.70      D
ATOM   3340  CZ2 TRP D  44      85.311  41.016  31.693  1.00 24.30      D
ATOM   3341  CZ3 TRP D  44      84.807  41.824  29.461  1.00 22.81      D
ATOM   3342  CH2 TRP D  44      84.666  40.870  30.487  1.00 24.05      D
ATOM   3343  C   TRP D  44      89.425  46.291  29.143  1.00 23.92      D
ATOM   3344  O   TRP D  44      90.081  47.131  29.759  1.00 24.50      D
ATOM   3345  N   CYS D  45      89.098  46.417  27.859  1.00 24.24      D
ATOM   3346  CA  CYS D  45      89.498  47.580  27.069  1.00 26.23      D
ATOM   3347  CB  CYS D  45      89.951  47.141  25.672  1.00 25.96      D
ATOM   3348  SG  CYS D  45      91.422  46.098  25.665  1.00 25.42      D
ATOM   3349  C   CYS D  45      88.377  48.608  26.950  1.00 27.07      D
ATOM   3350  O   CYS D  45      88.612  49.749  26.549  1.00 28.23      D
ATOM   3351  N   LEU D  46      87.157  48.193  27.273  1.00 27.18      D
ATOM   3352  CA  LEU D  46      86.002  49.087  27.232  1.00 28.16      D
ATOM   3353  CB  LEU D  46      84.907  48.525  26.320  1.00 27.82      D
ATOM   3354  CG  LEU D  46      84.142  49.460  25.372  1.00 30.22      D
ATOM   3355  CD1 LEU D  46      82.792  48.827  25.040  1.00 29.72      D
ATOM   3356  CD2 LEU D  46      83.928  50.827  25.994  1.00 31.10      D
ATOM   3357  C   LEU D  46      85.504  49.138  28.675  1.00 28.73      D
ATOM   3358  O   LEU D  46      85.049  48.133  29.216  1.00 28.92      D
ATOM   3359  N   PRO D  47      85.601  50.309  29.318  1.00 29.35      D
ATOM   3360  CD  PRO D  47      86.116  51.554  28.717  1.00 28.33      D
ATOM   3361  CA  PRO D  47      85.182  50.533  30.709  1.00 29.01      D
ATOM   3362  CB  PRO D  47      85.139  52.051  30.806  1.00 29.32      D
ATOM   3363  CG  PRO D  47      86.307  52.447  29.929  1.00 30.61      D
ATOM   3364  C   PRO D  47      83.879  49.875  31.169  1.00 28.51      D
ATOM   3365  O   PRO D  47      83.867  49.151  32.163  1.00 28.22      D
ATOM   3366  N   VAL D  48      82.784  50.126  30.458  1.00 28.05      D
ATOM   3367  CA  VAL D  48      81.492  49.545  30.826  1.00 27.41      D
ATOM   3368  CB  VAL D  48      80.406  49.918  29.810  1.00 26.31      D
ATOM   3369  CG1 VAL D  48      79.955  51.345  30.027  1.00 30.25      D
ATOM   3370  CG2 VAL D  48      80.949  49.744  28.398  1.00 26.11      D
ATOM   3371  C   VAL D  48      81.490  48.022  30.961  1.00 26.77      D
ATOM   3372  O   VAL D  48      80.622  47.462  31.627  1.00 27.43      D
ATOM   3373  N   LEU D  49      82.449  47.353  30.332  1.00 25.75      D
ATOM   3374  CA  LEU D  49      82.517  45.898  30.395  1.00 27.21      D
ATOM   3375  CB  LEU D  49      83.237  45.354  29.153  1.00 27.47      D
ATOM   3376  CG  LEU D  49      82.405  44.886  27.944  1.00 29.74      D
ATOM   3377  CD1 LEU D  49      81.361  45.898  27.578  1.00 29.28      D
ATOM   3378  CD2 LEU D  49      83.329  44.627  26.753  1.00 29.72      D
ATOM   3379  C   LEU D  49      83.185  45.374  31.674  1.00 27.86      D
ATOM   3380  O   LEU D  49      83.246  44.163  31.900  1.00 25.45      D
ATOM   3381  N   ARG D  50      83.680  46.283  32.508  1.00 29.82      D
ATOM   3382  CA  ARG D  50      84.319  45.892  33.768  1.00 32.18      D
ATOM   3383  CB  ARG D  50      84.900  47.105  34.509  1.00 35.49      D
ATOM   3384  CG  ARG D  50      86.010  47.890  33.824  1.00 40.53      D
ATOM   3385  CD  ARG D  50      86.524  48.968  34.786  1.00 42.89      D
ATOM   3386  NE  ARG D  50      87.297  50.017  34.125  1.00 46.26      D
ATOM   3387  CZ  ARG D  50      88.484  49.836  33.555  1.00 46.43      D
ATOM   3388  NH1 ARG D  50      89.049  48.636  33.564  1.00 46.42      D
ATOM   3389  NH2 ARG D  50      89.100  50.857  32.968  1.00 43.78      D
ATOM   3390  C   ARG D  50      83.283  45.247  34.690  1.00 31.58      D
ATOM   3391  O   ARG D  50      83.631  44.577  35.664  1.00 31.56      D
ATOM   3392  N   GLN D  51      82.009  45.476  34.397  1.00 30.22      D
ATOM   3393  CA  GLN D  51      80.942  44.921  35.221  1.00 30.10      D
ATOM   3394  CB  GLN D  51      79.610  45.592  34.880  1.00 31.37      D
ATOM   3395  CG  GLN D  51      79.194  45.469  33.426  1.00 33.44      D
ATOM   3396  CD  GLN D  51      77.888  46.188  33.144  1.00 37.07      D
ATOM   3397  OE1 GLN D  51      76.835  45.824  33.678  1.00 36.72      D
ATOM   3398  NE2 GLN D  51      77.951  47.222  32.309  1.00 34.55      D
ATOM   3399  C   GLN D  51      80.830  43.411  35.049  1.00 29.51      D
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ATOM	3400	O	GLN	D	51	80.291	42.721	35.911	1.00	29.09	D
ATOM	3401	N	PHE	D	52	81.342	42.899	33.935	1.00	28.19	D
ATOM	3402	CA	PHE	D	52	81.300	41.468	33.676	1.00	26.27	D
ATOM	3403	CB	PHE	D	52	81.218	41.188	32.178	1.00	25.00	D
ATOM	3404	CG	PHE	D	52	80.030	41.801	31.513	1.00	23.07	D
ATOM	3405	CD1	PHE	D	52	78.744	41.569	31.999	1.00	22.75	D
ATOM	3406	CD2	PHE	D	52	80.188	42.594	30.380	1.00	23.46	D
ATOM	3407	CE1	PHE	D	52	77.627	42.122	31.364	1.00	21.26	D
ATOM	3408	CE2	PHE	D	52	79.079	43.151	29.735	1.00	21.92	D
ATOM	3409	CZ	PHE	D	52	77.799	42.913	30.231	1.00	21.69	D
ATOM	3410	C	PHE	D	52	82.547	40.797	34.217	1.00	27.11	D
ATOM	3411	O	PHE	D	52	83.477	41.461	34.669	1.00	27.64	D
ATOM	3412	N	ARG	D	53	82.556	39.471	34.152	1.00	27.25	D
ATOM	3413	CA	ARG	D	53	83.683	38.672	34.609	1.00	28.31	D
ATOM	3414	CB	ARG	D	53	83.347	37.976	35.939	1.00	32.75	D
ATOM	3415	CG	ARG	D	53	83.263	38.921	37.143	1.00	40.59	D
ATOM	3416	CD	ARG	D	53	82.418	38.325	38.269	1.00	45.99	D
ATOM	3417	NE	ARG	D	53	81.007	38.229	37.892	1.00	52.14	D
ATOM	3418	CZ	ARG	D	53	80.172	39.265	37.808	1.00	53.70	D
ATOM	3419	NH1	ARG	D	53	80.597	40.493	38.080	1.00	53.85	D
ATOM	3420	NH2	ARG	D	53	78.910	39.071	37.440	1.00	54.61	D
ATOM	3421	C	ARG	D	53	84.007	37.624	33.548	1.00	25.73	D
ATOM	3422	O	ARG	D	53	83.120	37.103	32.875	1.00	23.84	D
ATOM	3423	N	PHE	D	54	85.290	37.335	33.387	1.00	23.47	D
ATOM	3424	CA	PHE	D	54	85.716	36.336	32.425	1.00	19.92	D
ATOM	3425	CB	PHE	D	54	86.159	36.980	31.113	1.00	15.46	D
ATOM	3426	CG	PHE	D	54	86.346	35.994	30.007	1.00	17.29	D
ATOM	3427	CD1	PHE	D	54	85.249	35.506	29.303	1.00	15.32	D
ATOM	3428	CD2	PHE	D	54	87.615	35.503	29.701	1.00	15.07	D
ATOM	3429	CE1	PHE	D	54	85.415	34.539	28.309	1.00	16.04	D
ATOM	3430	CE2	PHE	D	54	87.788	34.535	28.709	1.00	13.99	D
ATOM	3431	CZ	PHE	D	54	86.688	34.055	28.014	1.00	14.35	D
ATOM	3432	C	PHE	D	54	86.879	35.598	33.055	1.00	18.63	D
ATOM	3433	O	PHE	D	54	87.922	36.188	33.329	1.00	19.50	D
ATOM	3434	N	ASP	D	55	86.676	34.312	33.309	1.00	19.05	D
ATOM	3435	CA	ASP	D	55	87.689	33.466	33.921	1.00	19.33	D
ATOM	3436	CB	ASP	D	55	87.084	32.100	34.237	1.00	21.38	D
ATOM	3437	CG	ASP	D	55	88.090	31.138	34.832	1.00	24.95	D
ATOM	3438	OD1	ASP	D	55	89.264	31.528	35.021	1.00	27.01	D
ATOM	3439	OD2	ASP	D	55	87.703	29.985	35.112	1.00	27.48	D
ATOM	3440	C	ASP	D	55	88.863	33.323	32.955	1.00	19.84	D
ATOM	3441	O	ASP	D	55	88.741	32.691	31.904	1.00	18.07	D
ATOM	3442	N	PRO	D	56	90.024	33.909	33.311	1.00	19.36	D
ATOM	3443	CD	PRO	D	56	90.285	34.584	34.593	1.00	16.09	D
ATOM	3444	CA	PRO	D	56	91.240	33.867	32.486	1.00	18.34	D
ATOM	3445	CB	PRO	D	56	92.228	34.729	33.278	1.00	19.78	D
ATOM	3446	CG	PRO	D	56	91.792	34.517	34.692	1.00	18.66	D
ATOM	3447	C	PRO	D	56	91.770	32.468	32.206	1.00	18.30	D
ATOM	3448	O	PRO	D	56	92.583	32.277	31.299	1.00	17.41	D
ATOM	3449	N	GLN	D	57	91.304	31.489	32.977	1.00	18.31	D
ATOM	3450	CA	GLN	D	57	91.744	30.114	32.781	1.00	18.39	D
ATOM	3451	CB	GLN	D	57	91.314	29.233	33.963	1.00	19.94	D
ATOM	3452	CG	GLN	D	57	91.738	27.773	33.856	1.00	18.50	D
ATOM	3453	CD	GLN	D	57	93.252	27.603	33.765	1.00	23.86	D
ATOM	3454	OE1	GLN	D	57	94.000	28.110	34.612	1.00	23.68	D
ATOM	3455	NE2	GLN	D	57	93.709	26.885	32.739	1.00	19.56	D
ATOM	3456	C	GLN	D	57	91.174	29.555	31.480	1.00	20.01	D
ATOM	3457	O	GLN	D	57	91.733	28.618	30.903	1.00	19.26	D
ATOM	3458	N	PHE	D	58	90.059	30.113	31.016	1.00	19.19	D
ATOM	3459	CA	PHE	D	58	89.490	29.629	29.765	1.00	20.37	D
ATOM	3460	CB	PHE	D	58	88.178	30.347	29.427	1.00	18.69	D
ATOM	3461	CG	PHE	D	58	87.587	29.912	28.114	1.00	20.67	D
ATOM	3462	CD1	PHE	D	58	88.040	30.456	26.912	1.00	19.84	D
ATOM	3463	CD2	PHE	D	58	86.640	28.891	28.070	1.00	19.87	D
ATOM	3464	CE1	PHE	D	58	87.562	29.984	25.682	1.00	19.25	D
ATOM	3465	CE2	PHE	D	58	86.156	28.411	26.844	1.00	20.67	D
ATOM	3466	CZ	PHE	D	58	86.623	28.961	25.652	1.00	19.50	D
ATOM	3467	C	PHE	D	58	90.508	29.892	28.659	1.00	20.46	D
ATOM	3468	O	PHE	D	58	90.745	29.049	27.790	1.00	20.36	D
ATOM	3469	N	ALA	D	59	91.115	31.070	28.716	1.00	20.85	D
ATOM	3470	CA	ALA	D	59	92.111	31.477	27.736	1.00	21.87	D
ATOM	3471	CB	ALA	D	59	92.458	32.959	27.937	1.00	20.20	D
ATOM	3472	C	ALA	D	59	93.374	30.618	27.819	1.00	22.41	D
ATOM	3473	O	ALA	D	59	93.877	30.151	26.796	1.00	22.54	D

ATOM	3474	N	LEU	D	60	93.890	30.409	29.030	1.00	21.24	D
ATOM	3475	CA	LEU	D	60	95.101	29.601	29.188	1.00	22.31	D
ATOM	3476	CB	LEU	D	60	95.501	29.474	30.663	1.00	22.79	D
ATOM	3477	CG	LEU	D	60	96.063	30.698	31.393	1.00	25.87	D
ATOM	3478	CD1	LEU	D	60	96.455	30.303	32.805	1.00	28.75	D
ATOM	3479	CD2	LEU	D	60	97.270	31.223	30.670	1.00	28.42	D
ATOM	3480	C	LEU	D	60	94.891	28.207	28.617	1.00	21.85	D
ATOM	3481	O	LEU	D	60	95.731	27.691	27.875	1.00	22.48	D
ATOM	3482	N	THR	D	61	93.763	27.600	28.966	1.00	19.32	D
ATOM	3483	CA	THR	D	61	93.457	26.259	28.489	1.00	20.67	D
ATOM	3484	CB	THR	D	61	92.175	25.721	29.158	1.00	20.04	D
ATOM	3485	OG1	THR	D	61	92.419	25.539	30.558	1.00	23.09	D
ATOM	3486	CG2	THR	D	61	91.759	24.393	28.546	1.00	21.15	D
ATOM	3487	C	THR	D	61	93.283	26.240	26.974	1.00	19.50	D
ATOM	3488	O	THR	D	61	93.805	25.363	26.288	1.00	18.76	D
ATOM	3489	N	ASN	D	62	92.565	27.229	26.456	1.00	19.66	D
ATOM	3490	CA	ASN	D	62	92.310	27.300	25.032	1.00	19.00	D
ATOM	3491	CB	ASN	D	62	91.356	28.453	24.729	1.00	18.52	D
ATOM	3492	CG	ASN	D	62	90.262	28.052	23.760	1.00	20.31	D
ATOM	3493	OD1	ASN	D	62	89.726	26.942	23.833	1.00	19.27	D
ATOM	3494	ND2	ASN	D	62	89.917	28.952	22.854	1.00	22.25	D
ATOM	3495	C	ASN	D	62	93.599	27.445	24.244	1.00	19.63	D
ATOM	3496	O	ASN	D	62	93.774	26.788	23.221	1.00	21.16	D
ATOM	3497	N	ILE	D	63	94.509	28.290	24.724	1.00	19.68	D
ATOM	3498	CA	ILE	D	63	95.779	28.481	24.033	1.00	18.76	D
ATOM	3499	CB	ILE	D	63	96.587	29.660	24.645	1.00	18.72	D
ATOM	3500	CG2	ILE	D	63	97.946	29.780	23.966	1.00	17.99	D
ATOM	3501	CG1	ILE	D	63	95.813	30.968	24.471	1.00	17.09	D
ATOM	3502	CD1	ILE	D	63	95.507	31.313	23.017	1.00	17.47	D
ATOM	3503	C	ILE	D	63	96.613	27.195	24.094	1.00	18.86	D
ATOM	3504	O	ILE	D	63	97.354	26.885	23.164	1.00	20.67	D
ATOM	3505	N	ALA	D	64	96.497	26.448	25.188	1.00	18.22	D
ATOM	3506	CA	ALA	D	64	97.244	25.193	25.316	1.00	20.33	D
ATOM	3507	CB	ALA	D	64	97.039	24.574	26.708	1.00	17.30	D
ATOM	3508	C	ALA	D	64	96.756	24.232	24.233	1.00	21.38	D
ATOM	3509	O	ALA	D	64	97.536	23.459	23.677	1.00	23.44	D
ATOM	3510	N	VAL	D	65	95.459	24.290	23.940	1.00	21.97	D
ATOM	3511	CA	VAL	D	65	94.872	23.444	22.910	1.00	22.59	D
ATOM	3512	CB	VAL	D	65	93.324	23.570	22.890	1.00	22.30	D
ATOM	3513	CG1	VAL	D	65	92.744	22.781	21.728	1.00	17.73	D
ATOM	3514	CG2	VAL	D	65	92.747	23.053	24.204	1.00	19.10	D
ATOM	3515	C	VAL	D	65	95.441	23.832	21.541	1.00	23.65	D
ATOM	3516	O	VAL	D	65	95.783	22.961	20.746	1.00	23.24	D
ATOM	3517	N	LEU	D	66	95.552	25.133	21.271	1.00	25.03	D
ATOM	3518	CA	LEU	D	66	96.102	25.580	19.991	1.00	26.10	D
ATOM	3519	CB	LEU	D	66	96.104	27.111	19.870	1.00	23.98	D
ATOM	3520	CG	LEU	D	66	94.826	27.953	19.969	1.00	25.20	D
ATOM	3521	CD1	LEU	D	66	95.030	29.233	19.169	1.00	21.70	D
ATOM	3522	CD2	LEU	D	66	93.629	27.211	19.435	1.00	26.16	D
ATOM	3523	C	LEU	D	66	97.533	25.078	19.880	1.00	26.24	D
ATOM	3524	O	LEU	D	66	97.971	24.667	18.816	1.00	27.10	D
ATOM	3525	N	LYS	D	67	98.262	25.131	20.989	1.00	27.93	D
ATOM	3526	CA	LYS	D	67	99.642	24.658	21.024	1.00	28.00	D
ATOM	3527	CB	LYS	D	67	100.215	24.827	22.437	1.00	27.69	D
ATOM	3528	CG	LYS	D	67	101.633	24.316	22.625	1.00	28.46	D
ATOM	3529	CD	LYS	D	67	102.086	24.504	24.069	1.00	30.94	D
ATOM	3530	CE	LYS	D	67	103.401	23.791	24.356	1.00	32.95	D
ATOM	3531	NZ	LYS	D	67	104.517	24.279	23.503	1.00	35.64	D
ATOM	3532	C	LYS	D	67	99.642	23.182	20.629	1.00	27.56	D
ATOM	3533	O	LYS	D	67	100.414	22.759	19.767	1.00	27.65	D
ATOM	3534	N	HIS	D	68	98.761	22.405	21.254	1.00	27.05	D
ATOM	3535	CA	HIS	D	68	98.665	20.982	20.956	1.00	26.31	D
ATOM	3536	CB	HIS	D	68	97.600	20.324	21.844	1.00	27.74	D
ATOM	3537	CG	HIS	D	68	97.356	18.879	21.531	1.00	31.20	D
ATOM	3538	CD2	HIS	D	68	97.801	17.748	22.130	1.00	31.26	D
ATOM	3539	ND1	HIS	D	68	96.582	18.466	20.465	1.00	32.71	D
ATOM	3540	CE1	HIS	D	68	96.560	17.146	20.423	1.00	31.32	D
ATOM	3541	NE2	HIS	D	68	97.292	16.686	21.421	1.00	31.58	D
ATOM	3542	C	HIS	D	68	98.341	20.757	19.483	1.00	25.27	D
ATOM	3543	O	HIS	D	68	98.958	19.914	18.830	1.00	25.67	D
ATOM	3544	N	ASN	D	69	97.386	21.521	18.959	1.00	22.00	D
ATOM	3545	CA	ASN	D	69	96.986	21.398	17.561	1.00	23.20	D
ATOM	3546	CB	ASN	D	69	95.706	22.210	17.307	1.00	23.27	D
ATOM	3547	CG	ASN	D	69	94.447	21.504	17.805	1.00	24.20	D

ATOM	3548	OD1	ASN	D	69	94.521	20.536	18.562	1.00	26.69	D
ATOM	3549	ND2	ASN	D	69	93.283	21.994	17.381	1.00	21.03	D
ATOM	3550	C	ASN	D	69	98.091	21.855	16.601	1.00	24.52	D
ATOM	3551	O	ASN	D	69	98.329	21.223	15.570	1.00	22.82	D
ATOM	3552	N	LEU	D	70	98.763	22.954	16.934	1.00	24.56	D
ATOM	3553	CA	LEU	D	70	99.831	23.459	16.078	1.00	26.89	D
ATOM	3554	CB	LEU	D	70	100.478	24.707	16.690	1.00	23.85	D
ATOM	3555	CG	LEU	D	70	101.619	25.306	15.857	1.00	22.71	D
ATOM	3556	CD1	LEU	D	70	101.082	25.776	14.519	1.00	19.18	D
ATOM	3557	CD2	LEU	D	70	102.254	26.472	16.592	1.00	23.62	D
ATOM	3558	C	LEU	D	70	100.900	22.388	15.882	1.00	28.63	D
ATOM	3559	O	LEU	D	70	101.413	22.210	14.780	1.00	27.56	D
ATOM	3560	N	ASN	D	71	101.224	21.687	16.967	1.00	31.13	D
ATOM	3561	CA	ASN	D	71	102.238	20.637	16.962	1.00	35.25	D
ATOM	3562	CB	ASN	D	71	102.393	20.052	18.370	1.00	35.30	D
ATOM	3563	CG	ASN	D	71	103.149	20.978	19.307	1.00	38.03	D
ATOM	3564	OD1	ASN	D	71	103.197	20.751	20.518	1.00	40.05	D
ATOM	3565	ND2	ASN	D	71	103.752	22.026	18.748	1.00	38.78	D
ATOM	3566	C	ASN	D	71	101.931	19.521	15.975	1.00	36.85	D
ATOM	3567	O	ASN	D	71	102.829	18.997	15.316	1.00	36.91	D
ATOM	3568	N	SER	D	72	100.660	19.157	15.876	1.00	38.08	D
ATOM	3569	CA	SER	D	72	100.261	18.104	14.961	1.00	39.44	D
ATOM	3570	CB	SER	D	72	98.847	17.623	15.306	1.00	40.69	D
ATOM	3571	OG	SER	D	72	98.529	16.427	14.611	1.00	44.84	D
ATOM	3572	C	SER	D	72	100.320	18.614	13.520	1.00	39.55	D
ATOM	3573	O	SER	D	72	100.798	17.915	12.625	1.00	38.61	D
ATOM	3574	N	LEU	D	73	99.846	19.839	13.305	1.00	40.64	D
ATOM	3575	CA	LEU	D	73	99.844	20.443	11.974	1.00	42.19	D
ATOM	3576	CB	LEU	D	73	99.085	21.768	11.990	1.00	42.17	D
ATOM	3577	CG	LEU	D	73	97.608	21.700	11.608	1.00	43.12	D
ATOM	3578	CD1	LEU	D	73	96.891	20.664	12.443	1.00	44.19	D
ATOM	3579	CD2	LEU	D	73	96.988	23.072	11.801	1.00	44.59	D
ATOM	3580	C	LEU	D	73	101.237	20.678	11.407	1.00	43.27	D
ATOM	3581	O	LEU	D	73	101.466	20.479	10.215	1.00	43.00	D
ATOM	3582	N	ILE	D	74	102.162	21.116	12.253	1.00	44.60	D
ATOM	3583	CA	ILE	D	74	103.529	21.364	11.812	1.00	46.44	D
ATOM	3584	CB	ILE	D	74	104.431	21.770	13.000	1.00	46.31	D
ATOM	3585	CG2	ILE	D	74	105.893	21.792	12.571	1.00	46.14	D
ATOM	3586	CG1	ILE	D	74	103.996	23.140	13.529	1.00	45.97	D
ATOM	3587	CD1	ILE	D	74	104.683	23.561	14.812	1.00	43.97	D
ATOM	3588	C	ILE	D	74	104.077	20.095	11.166	1.00	48.14	D
ATOM	3589	O	ILE	D	74	104.724	20.147	10.119	1.00	48.28	D
ATOM	3590	N	LYS	D	75	103.800	18.957	11.795	1.00	49.68	D
ATOM	3591	CA	LYS	D	75	104.252	17.669	11.290	1.00	51.82	D
ATOM	3592	CB	LYS	D	75	104.060	16.589	12.356	1.00	52.85	D
ATOM	3593	CG	LYS	D	75	104.856	16.839	13.621	1.00	54.78	D
ATOM	3594	CD	LYS	D	75	104.517	15.831	14.704	1.00	57.28	D
ATOM	3595	CE	LYS	D	75	105.222	16.170	16.010	1.00	58.75	D
ATOM	3596	NZ	LYS	D	75	104.803	15.266	17.116	1.00	59.97	D
ATOM	3597	C	LYS	D	75	103.499	17.276	10.023	1.00	52.37	D
ATOM	3598	O	LYS	D	75	104.106	17.086	8.972	1.00	52.78	D
ATOM	3599	N	ARG	D	76	102.177	17.171	10.124	1.00	52.67	D
ATOM	3600	CA	ARG	D	76	101.353	16.783	8.986	1.00	52.67	D
ATOM	3601	CB	ARG	D	76	99.911	16.546	9.439	1.00	53.54	D
ATOM	3602	CG	ARG	D	76	99.764	15.339	10.346	1.00	55.62	D
ATOM	3603	CD	ARG	D	76	98.310	15.011	10.639	1.00	58.29	D
ATOM	3604	NE	ARG	D	76	97.628	16.107	11.319	1.00	61.07	D
ATOM	3605	CZ	ARG	D	76	96.437	16.000	11.900	1.00	62.21	D
ATOM	3606	NH1	ARG	D	76	95.793	14.840	11.885	1.00	62.71	D
ATOM	3607	NH2	ARG	D	76	95.889	17.055	12.492	1.00	61.94	D
ATOM	3608	C	ARG	D	76	101.375	17.761	7.816	1.00	52.35	D
ATOM	3609	O	ARG	D	76	100.691	17.550	6.817	1.00	52.65	D
ATOM	3610	N	SER	D	77	102.160	18.824	7.932	1.00	52.02	D
ATOM	3611	CA	SER	D	77	102.255	19.807	6.856	1.00	51.87	D
ATOM	3612	CB	SER	D	77	101.945	21.212	7.379	1.00	50.95	D
ATOM	3613	OG	SER	D	77	102.975	21.668	8.239	1.00	48.11	D
ATOM	3614	C	SER	D	77	103.667	19.789	6.287	1.00	52.25	D
ATOM	3615	O	SER	D	77	104.028	20.633	5.464	1.00	51.67	D
ATOM	3616	N	ASN	D	78	104.455	18.814	6.731	1.00	52.79	D
ATOM	3617	CA	ASN	D	78	105.841	18.675	6.301	1.00	53.67	D
ATOM	3618	CB	ASN	D	78	105.912	18.364	4.797	1.00	55.53	D
ATOM	3619	CG	ASN	D	78	107.298	17.901	4.355	1.00	57.31	D
ATOM	3620	OD1	ASN	D	78	107.959	17.129	5.051	1.00	56.41	D
ATOM	3621	ND2	ASN	D	78	107.732	18.360	3.184	1.00	58.05	D

ATOM	3622	C	ASN	D	78	106.549	19.985	6.632	1.00	52.90	D
ATOM	3623	O	ASN	D	78	107.300	20.536	5.826	1.00	53.98	D
ATOM	3624	N	SER	D	79	106.275	20.479	7.835	1.00	51.25	D
ATOM	3625	CA	SER	D	79	106.856	21.715	8.341	1.00	49.59	D
ATOM	3626	CB	SER	D	79	108.333	21.498	8.664	1.00	49.69	D
ATOM	3627	OG	SER	D	79	108.472	20.604	9.753	1.00	52.23	D
ATOM	3628	C	SER	D	79	106.711	22.931	7.437	1.00	47.21	D
ATOM	3629	O	SER	D	79	107.699	23.588	7.111	1.00	47.49	D
ATOM	3630	N	THR	D	80	105.483	23.235	7.032	1.00	44.68	D
ATOM	3631	CA	THR	D	80	105.245	24.401	6.189	1.00	43.69	D
ATOM	3632	CB	THR	D	80	103.928	24.274	5.407	1.00	45.12	D
ATOM	3633	OG1	THR	D	80	103.976	23.112	4.570	1.00	47.94	D
ATOM	3634	CG2	THR	D	80	103.706	25.505	4.541	1.00	44.11	D
ATOM	3635	C	THR	D	80	105.166	25.634	7.094	1.00	42.94	D
ATOM	3636	O	THR	D	80	104.225	25.783	7.874	1.00	41.60	D
ATOM	3637	N	ALA	D	81	106.162	26.510	6.988	1.00	40.39	D
ATOM	3638	CA	ALA	D	81	106.215	27.715	7.804	1.00	37.86	D
ATOM	3639	CB	ALA	D	81	107.657	28.171	7.958	1.00	39.23	D
ATOM	3640	C	ALA	D	81	105.372	28.846	7.234	1.00	36.29	D
ATOM	3641	O	ALA	D	81	104.988	28.829	6.065	1.00	35.21	D
ATOM	3642	N	ALA	D	82	105.087	29.829	8.079	1.00	34.40	D
ATOM	3643	CA	ALA	D	82	104.294	30.984	7.685	1.00	32.51	D
ATOM	3644	CB	ALA	D	82	103.915	31.789	8.920	1.00	32.45	D
ATOM	3645	C	ALA	D	82	105.064	31.866	6.707	1.00	32.78	D
ATOM	3646	O	ALA	D	82	106.294	31.913	6.740	1.00	30.87	D
ATOM	3647	N	THR	D	83	104.333	32.561	5.839	1.00	32.79	D
ATOM	3648	CA	THR	D	83	104.940	33.459	4.867	1.00	34.48	D
ATOM	3649	CB	THR	D	83	104.195	33.429	3.521	1.00	35.64	D
ATOM	3650	OG1	THR	D	83	104.179	32.094	3.006	1.00	38.88	D
ATOM	3651	CG2	THR	D	83	104.880	34.342	2.521	1.00	35.33	D
ATOM	3652	C	THR	D	83	104.886	34.887	5.401	1.00	35.30	D
ATOM	3653	O	THR	D	83	103.827	35.355	5.824	1.00	36.88	D
ATOM	3654	N	ASN	D	84	106.025	35.575	5.379	1.00	35.07	D
ATOM	3655	CA	ASN	D	84	106.095	36.949	5.855	1.00	33.90	D
ATOM	3656	CB	ASN	D	84	107.548	37.413	6.010	1.00	34.23	D
ATOM	3657	CG	ASN	D	84	108.351	36.545	6.954	1.00	36.16	D
ATOM	3658	OD1	ASN	D	84	107.895	36.195	8.043	1.00	34.99	D
ATOM	3659	ND2	ASN	D	84	109.572	36.205	6.545	1.00	37.40	D
ATOM	3660	C	ASN	D	84	105.419	37.879	4.865	1.00	34.74	D
ATOM	3661	O	ASN	D	84	105.814	37.940	3.699	1.00	35.59	D
ATOM	3662	N	GLU	D	85	104.401	38.599	5.327	1.00	34.09	D
ATOM	3663	CA	GLU	D	85	103.695	39.561	4.489	1.00	32.99	D
ATOM	3664	CB	GLU	D	85	102.239	39.714	4.939	1.00	35.56	D
ATOM	3665	CG	GLU	D	85	101.370	38.475	4.746	1.00	40.80	D
ATOM	3666	CD	GLU	D	85	101.019	38.215	3.291	1.00	43.32	D
ATOM	3667	OE1	GLU	D	85	100.409	39.104	2.658	1.00	46.21	D
ATOM	3668	OE2	GLU	D	85	101.345	37.119	2.782	1.00	44.58	D
ATOM	3669	C	GLU	D	85	104.418	40.886	4.681	1.00	31.21	D
ATOM	3670	O	GLU	D	85	105.220	41.024	5.602	1.00	32.36	D
ATOM	3671	N	VAL	D	86	104.140	41.848	3.808	1.00	29.71	D
ATOM	3672	CA	VAL	D	86	104.749	43.170	3.882	1.00	27.94	D
ATOM	3673	CB	VAL	D	86	105.079	43.712	2.467	1.00	26.90	D
ATOM	3674	CG1	VAL	D	86	105.569	45.166	2.543	1.00	23.11	D
ATOM	3675	CG2	VAL	D	86	106.134	42.829	1.821	1.00	24.31	D
ATOM	3676	C	VAL	D	86	103.767	44.114	4.574	1.00	29.81	D
ATOM	3677	O	VAL	D	86	102.658	44.343	4.088	1.00	30.28	D
ATOM	3678	N	PRO	D	87	104.162	44.666	5.729	1.00	29.08	D
ATOM	3679	CD	PRO	D	87	105.356	44.310	6.509	1.00	29.37	D
ATOM	3680	CA	PRO	D	87	103.306	45.583	6.485	1.00	30.85	D
ATOM	3681	CB	PRO	D	87	104.083	45.791	7.786	1.00	30.80	D
ATOM	3682	CG	PRO	D	87	104.878	44.551	7.920	1.00	30.83	D
ATOM	3683	C	PRO	D	87	103.049	46.907	5.772	1.00	31.43	D
ATOM	3684	O	PRO	D	87	103.863	47.357	4.968	1.00	31.78	D
ATOM	3685	N	GLU	D	88	101.907	47.517	6.081	1.00	31.85	D
ATOM	3686	CA	GLU	D	88	101.516	48.808	5.521	1.00	32.77	D
ATOM	3687	CB	GLU	D	88	100.195	48.687	4.744	1.00	35.18	D
ATOM	3688	CG	GLU	D	88	99.814	49.960	3.987	1.00	43.00	D
ATOM	3689	CD	GLU	D	88	98.512	49.839	3.205	1.00	46.30	D
ATOM	3690	OE1	GLU	D	88	97.439	49.745	3.837	1.00	47.40	D
ATOM	3691	OE2	GLU	D	88	98.564	49.840	1.954	1.00	48.25	D
ATOM	3692	C	GLU	D	88	101.338	49.748	6.721	1.00	31.26	D
ATOM	3693	O	GLU	D	88	100.556	49.457	7.630	1.00	31.21	D
ATOM	3694	N	VAL	D	89	102.060	50.864	6.728	1.00	28.43	D
ATOM	3695	CA	VAL	D	89	101.988	51.806	7.842	1.00	26.87	D

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ATOM   3696  CB  VAL D  89     103.385  52.024   8.454  1.00 26.58      D
ATOM   3697  CG1 VAL D  89     103.277  52.886   9.699  1.00 26.80      D
ATOM   3698  CG2 VAL D  89     104.021  50.679   8.787  1.00 24.58      D
ATOM   3699  C   VAL D  89     101.389  53.174   7.505  1.00 27.02      D
ATOM   3700  O   VAL D  89     101.698  53.772   6.473  1.00 26.22      D
ATOM   3701  N   THR D  90     100.530  53.662   8.394  1.00 26.33      D
ATOM   3702  CA  THR D  90      99.881  54.955   8.219  1.00 26.05      D
ATOM   3703  CB  THR D  90      98.414  54.802   7.769  1.00 27.24      D
ATOM   3704  OG1 THR D  90      98.359  54.063   6.543  1.00 31.41      D
ATOM   3705  CG2 THR D  90      97.786  56.163   7.545  1.00 28.57      D
ATOM   3706  C   THR D  90      99.883  55.698   9.546  1.00 24.83      D
ATOM   3707  O   THR D  90      99.542  55.120  10.581  1.00 25.45      D
ATOM   3708  N   VAL D  91     100.266  56.972   9.512  1.00 22.04      D
ATOM   3709  CA  VAL D  91     100.300  57.791  10.716  1.00 21.50      D
ATOM   3710  CB  VAL D  91     101.749  58.280  11.031  1.00 23.04      D
ATOM   3711  CG1 VAL D  91     101.737  59.245  12.225  1.00 22.74      D
ATOM   3712  CG2 VAL D  91     102.650  57.082  11.340  1.00 20.38      D
ATOM   3713  C   VAL D  91      99.369  58.993  10.553  1.00 21.65      D
ATOM   3714  O   VAL D  91      99.357  59.653   9.509  1.00 21.70      D
ATOM   3715  N   PHE D  92      98.573  59.252  11.586  1.00 21.34      D
ATOM   3716  CA  PHE D  92      97.633  60.363  11.580  1.00 21.48      D
ATOM   3717  CB  PHE D  92      96.370  59.985  10.788  1.00 21.60      D
ATOM   3718  CG  PHE D  92      95.652  58.771  11.314  1.00 22.22      D
ATOM   3719  CD1 PHE D  92      94.601  58.902  12.215  1.00 24.10      D
ATOM   3720  CD2 PHE D  92      96.038  57.495  10.925  1.00 24.53      D
ATOM   3721  CE1 PHE D  92      93.940  57.774  12.724  1.00 22.72      D
ATOM   3722  CE2 PHE D  92      95.386  56.355  11.428  1.00 23.87      D
ATOM   3723  CZ  PHE D  92      94.335  56.501  12.329  1.00 21.18      D
ATOM   3724  C   PHE D  92      97.303  60.700  13.030  1.00 22.72      D
ATOM   3725  O   PHE D  92      97.607  59.921  13.933  1.00 22.31      D
ATOM   3726  N   SER D  93      96.696  61.859  13.261  1.00 22.45      D
ATOM   3727  CA  SER D  93      96.366  62.262  14.623  1.00 21.69      D
ATOM   3728  CB  SER D  93      96.599  63.764  14.799  1.00 20.96      D
ATOM   3729  OG  SER D  93      95.696  64.508  14.010  1.00 25.08      D
ATOM   3730  C   SER D  93      94.931  61.913  14.990  1.00 21.02      D
ATOM   3731  O   SER D  93      94.078  61.755  14.127  1.00 20.62      D
ATOM   3732  N   LYS D  94      94.676  61.791  16.283  1.00 20.66      D
ATOM   3733  CA  LYS D  94      93.350  61.453  16.768  1.00 24.11      D
ATOM   3734  CB  LYS D  94      93.444  60.985  18.223  1.00 24.91      D
ATOM   3735  CG  LYS D  94      92.121  60.605  18.865  1.00 29.49      D
ATOM   3736  CD  LYS D  94      92.353  60.101  20.293  1.00 32.97      D
ATOM   3737  CE  LYS D  94      91.050  59.909  21.052  1.00 33.37      D
ATOM   3738  NZ  LYS D  94      90.175  58.897  20.399  1.00 34.08      D
ATOM   3739  C   LYS D  94      92.406  62.646  16.654  1.00 24.40      D
ATOM   3740  O   LYS D  94      91.224  62.495  16.356  1.00 24.55      D
ATOM   3741  N   SER D  95      92.935  63.834  16.894  1.00 25.54      D
ATOM   3742  CA  SER D  95      92.133  65.040  16.815  1.00 29.22      D
ATOM   3743  CB  SER D  95      91.932  65.643  18.208  1.00 30.47      D
ATOM   3744  OG  SER D  95      91.236  64.746  19.060  1.00 36.11      D
ATOM   3745  C   SER D  95      92.843  66.046  15.932  1.00 29.71      D
ATOM   3746  O   SER D  95      93.993  65.834  15.531  1.00 29.68      D
ATOM   3747  N   PRO D  96      92.159  67.146  15.588  1.00 29.93      D
ATOM   3748  CD  PRO D  96      90.760  67.532  15.843  1.00 31.14      D
ATOM   3749  CA  PRO D  96      92.836  68.129  14.747  1.00 29.29      D
ATOM   3750  CB  PRO D  96      91.714  69.097  14.369  1.00 31.65      D
ATOM   3751  CG  PRO D  96      90.777  69.010  15.545  1.00 30.66      D
ATOM   3752  C   PRO D  96      93.939  68.765  15.587  1.00 27.35      D
ATOM   3753  O   PRO D  96      93.818  68.904  16.806  1.00 24.86      D
ATOM   3754  N   VAL D  97      95.025  69.127  14.929  1.00 26.81      D
ATOM   3755  CA  VAL D  97      96.158  69.706  15.615  1.00 29.25      D
ATOM   3756  CB  VAL D  97      97.438  69.501  14.783  1.00 31.49      D
ATOM   3757  CG1 VAL D  97      98.652  69.998  15.556  1.00 33.50      D
ATOM   3758  CG2 VAL D  97      97.583  68.029  14.415  1.00 34.03      D
ATOM   3759  C   VAL D  97      96.007  71.196  15.910  1.00 28.80      D
ATOM   3760  O   VAL D  97      95.749  71.998  15.012  1.00 28.78      D
ATOM   3761  N   THR D  98      96.144  71.559  17.178  1.00 27.47      D
ATOM   3762  CA  THR D  98      96.091  72.960  17.572  1.00 26.55      D
ATOM   3763  CB  THR D  98      94.723  73.365  18.209  1.00 26.16      D
ATOM   3764  OG1 THR D  98      94.684  72.961  19.575  1.00 31.83      D
ATOM   3765  CG2 THR D  98      93.567  72.717  17.469  1.00 23.66      D
ATOM   3766  C   THR D  98      97.220  73.114  18.581  1.00 25.73      D
ATOM   3767  O   THR D  98      97.260  72.412  19.591  1.00 27.12      D
ATOM   3768  N   LEU D  99      98.159  74.005  18.285  1.00 26.12      D
ATOM   3769  CA  LEU D  99      99.307  74.236  19.156  1.00 27.47      D
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ATOM   3770  CB  LEU D  99     100.089  75.459  18.675  1.00 31.04      D
ATOM   3771  CG  LEU D  99     100.758  75.309  17.310  1.00 33.09      D
ATOM   3772  CD1 LEU D  99     101.458  76.607  16.940  1.00 36.20      D
ATOM   3773  CD2 LEU D  99     101.754  74.165  17.361  1.00 35.56      D
ATOM   3774  C   LEU D  99      98.935  74.416  20.621  1.00 26.08      D
ATOM   3775  O   LEU D  99      98.077  75.222  20.946  1.00 25.97      D
ATOM   3776  N   GLY D 100      99.585  73.654  21.500  1.00 26.97      D
ATOM   3777  CA  GLY D 100      99.310  73.749  22.924  1.00 26.03      D
ATOM   3778  C   GLY D 100      98.233  72.798  23.422  1.00 26.02      D
ATOM   3779  O   GLY D 100      98.020  72.662  24.629  1.00 25.51      D
ATOM   3780  N   GLN D 101      97.553  72.143  22.491  1.00 25.73      D
ATOM   3781  CA  GLN D 101      96.490  71.199  22.820  1.00 28.13      D
ATOM   3782  CB  GLN D 101      95.372  71.297  21.776  1.00 32.24      D
ATOM   3783  CG  GLN D 101      94.617  69.981  21.560  1.00 38.65      D
ATOM   3784  CD  GLN D 101      94.680  69.459  20.115  1.00 41.08      D
ATOM   3785  OE1 GLN D 101      95.760  69.348  19.511  1.00 38.18      D
ATOM   3786  NE2 GLN D 101      93.515  69.119  19.566  1.00 40.87      D
ATOM   3787  C   GLN D 101      96.994  69.756  22.861  1.00 25.22      D
ATOM   3788  O   GLN D 101      97.477  69.245  21.857  1.00 24.55      D
ATOM   3789  N   PRO D 102      96.885  69.078  24.019  1.00 24.18      D
ATOM   3790  CD  PRO D 102      96.436  69.544  25.343  1.00 22.22      D
ATOM   3791  CA  PRO D 102      97.359  67.683  24.080  1.00 22.76      D
ATOM   3792  CB  PRO D 102      96.983  67.253  25.494  1.00 22.02      D
ATOM   3793  CG  PRO D 102      97.088  68.542  26.274  1.00 22.44      D
ATOM   3794  C   PRO D 102      96.649  66.845  23.015  1.00 21.72      D
ATOM   3795  O   PRO D 102      95.429  66.922  22.876  1.00 22.65      D
ATOM   3796  N   ASN D 103      97.409  66.055  22.264  1.00 19.84      D
ATOM   3797  CA  ASN D 103      96.833  65.225  21.209  1.00 17.89      D
ATOM   3798  CB  ASN D 103      97.112  65.856  19.838  1.00 16.30      D
ATOM   3799  CG  ASN D 103      96.005  65.587  18.824  1.00 16.50      D
ATOM   3800  OD1 ASN D 103      95.552  64.446  18.636  1.00 16.80      D
ATOM   3801  ND2 ASN D 103      95.569  66.643  18.160  1.00 14.61      D
ATOM   3802  C   ASN D 103      97.410  63.805  21.248  1.00 17.24      D
ATOM   3803  O   ASN D 103      98.199  63.473  22.129  1.00 15.74      D
ATOM   3804  N   ILE D 104      97.010  62.977  20.284  1.00 17.39      D
ATOM   3805  CA  ILE D 104      97.465  61.595  20.198  1.00 15.30      D
ATOM   3806  CB  ILE D 104      96.402  60.627  20.755  1.00 17.89      D
ATOM   3807  CG2 ILE D 104      96.818  59.175  20.498  1.00 13.27      D
ATOM   3808  CG1 ILE D 104      96.202  60.886  22.253  1.00 18.46      D
ATOM   3809  CD1 ILE D 104      95.179  59.965  22.895  1.00 17.98      D
ATOM   3810  C   ILE D 104      97.760  61.185  18.763  1.00 17.15      D
ATOM   3811  O   ILE D 104      96.887  61.283  17.902  1.00 18.07      D
ATOM   3812  N   LEU D 105      98.987  60.727  18.509  1.00 16.66      D
ATOM   3813  CA  LEU D 105      99.370  60.272  17.177  1.00 16.59      D
ATOM   3814  CB  LEU D 105     100.864  60.482  16.895  1.00 17.56      D
ATOM   3815  CG  LEU D 105     101.375  61.926  16.842  1.00 21.66      D
ATOM   3816  CD1 LEU D 105     102.811  61.943  16.302  1.00 21.26      D
ATOM   3817  CD2 LEU D 105     100.460  62.771  15.951  1.00 21.56      D
ATOM   3818  C   LEU D 105      99.061  58.804  17.128  1.00 17.13      D
ATOM   3819  O   LEU D 105      99.368  58.056  18.056  1.00 18.35      D
ATOM   3820  N   ILE D 106      98.432  58.399  16.039  1.00 17.88      D
ATOM   3821  CA  ILE D 106      98.045  57.016  15.839  1.00 17.14      D
ATOM   3822  CB  ILE D 106      96.525  56.939  15.492  1.00 16.99      D
ATOM   3823  CG2 ILE D 106      96.093  55.496  15.318  1.00 15.63      D
ATOM   3824  CG1 ILE D 106      95.711  57.619  16.604  1.00 19.04      D
ATOM   3825  CD1 ILE D 106      94.238  57.877  16.260  1.00 16.48      D
ATOM   3826  C   ILE D 106      98.876  56.431  14.700  1.00 17.19      D
ATOM   3827  O   ILE D 106      98.941  57.004  13.618  1.00 16.06      D
ATOM   3828  N   CYS D 107      99.540  55.312  14.966  1.00 18.84      D
ATOM   3829  CA  CYS D 107     100.339  54.637  13.954  1.00 19.74      D
ATOM   3830  C   CYS D 107      99.634  53.323  13.670  1.00 20.17      D
ATOM   3831  O   CYS D 107      99.632  52.421  14.507  1.00 20.08      D
ATOM   3832  CB  CYS D 107     101.755  54.349  14.453  1.00 22.00      D
ATOM   3833  SG  CYS D 107     102.800  53.514  13.211  1.00 28.61      D
ATOM   3834  N   LEU D 108      99.027  53.221  12.493  1.00 19.48      D
ATOM   3835  CA  LEU D 108      98.313  52.015  12.113  1.00 19.67      D
ATOM   3836  CB  LEU D 108      97.024  52.391  11.369  1.00 19.98      D
ATOM   3837  CG  LEU D 108      95.977  51.358  10.925  1.00 20.40      D
ATOM   3838  CD1 LEU D 108      95.883  51.366   9.412  1.00 20.15      D
ATOM   3839  CD2 LEU D 108      96.301  49.971  11.454  1.00 19.44      D
ATOM   3840  C   LEU D 108      99.207  51.145  11.237  1.00 19.84      D
ATOM   3841  O   LEU D 108      99.657  51.563  10.170  1.00 20.11      D
ATOM   3842  N   VAL D 109      99.473  49.940  11.721  1.00 19.32      D
ATOM   3843  CA  VAL D 109     100.289  48.972  11.016  1.00 19.64      D
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ATOM   3844  CB  VAL D 109     101.368  48.402  11.958  1.00 19.40      D
ATOM   3845  CG1 VAL D 109     102.290  47.474  11.202  1.00 18.01      D
ATOM   3846  CG2 VAL D 109     102.155  49.560  12.590  1.00 17.30      D
ATOM   3847  C   VAL D 109      99.321  47.876  10.568  1.00 21.45      D
ATOM   3848  O   VAL D 109      98.845  47.079  11.382  1.00 22.65      D
ATOM   3849  N   ASP D 110      99.022  47.861   9.274  1.00 22.00      D
ATOM   3850  CA  ASP D 110      98.086  46.901   8.689  1.00 23.80      D
ATOM   3851  CB  ASP D 110      97.156  47.648   7.728  1.00 24.68      D
ATOM   3852  CG  ASP D 110      95.790  47.002   7.603  1.00 26.64      D
ATOM   3853  OD1 ASP D 110      95.582  45.915   8.177  1.00 28.80      D
ATOM   3854  OD2 ASP D 110      94.920  47.591   6.926  1.00 27.99      D
ATOM   3855  C   ASP D 110      98.802  45.756   7.944  1.00 23.77      D
ATOM   3856  O   ASP D 110     100.005  45.831   7.684  1.00 22.82      D
ATOM   3857  N   ASN D 111      98.044  44.711   7.604  1.00 23.55      D
ATOM   3858  CA  ASN D 111      98.548  43.530   6.889  1.00 23.79      D
ATOM   3859  CB  ASN D 111      98.880  43.867   5.425  1.00 25.36      D
ATOM   3860  CG  ASN D 111      99.079  42.610   4.562  1.00 29.95      D
ATOM   3861  OD1 ASN D 111      99.981  42.547   3.724  1.00 29.58      D
ATOM   3862  ND2 ASN D 111      98.220  41.611   4.761  1.00 30.51      D
ATOM   3863  C   ASN D 111      99.786  42.941   7.556  1.00 22.70      D
ATOM   3864  O   ASN D 111     100.834  42.784   6.929  1.00 22.97      D
ATOM   3865  N   ILE D 112      99.656  42.612   8.835  1.00 22.14      D
ATOM   3866  CA  ILE D 112     100.754  42.038   9.598  1.00 20.20      D
ATOM   3867  CB  ILE D 112     100.746  42.536  11.055  1.00 18.82      D
ATOM   3868  CG2 ILE D 112     101.926  41.950  11.808  1.00 15.77      D
ATOM   3869  CG1 ILE D 112     100.770  44.058  11.103  1.00 19.09      D
ATOM   3870  CD1 ILE D 112     100.630  44.602  12.514  1.00 21.18      D
ATOM   3871  C   ILE D 112     100.666  40.512   9.659  1.00 21.41      D
ATOM   3872  O   ILE D 112      99.626  39.960  10.002  1.00 22.04      D
ATOM   3873  N   PHE D 113     101.765  39.838   9.338  1.00 21.35      D
ATOM   3874  CA  PHE D 113     101.818  38.386   9.409  1.00 19.93      D
ATOM   3875  CB  PHE D 113     100.822  37.726   8.462  1.00 21.28      D
ATOM   3876  CG  PHE D 113     100.537  36.306   8.825  1.00 20.91      D
ATOM   3877  CD1 PHE D 113      99.630  36.012   9.838  1.00 19.85      D
ATOM   3878  CD2 PHE D 113     101.244  35.261   8.230  1.00 22.61      D
ATOM   3879  CE1 PHE D 113      99.430  34.698  10.264  1.00 20.63      D
ATOM   3880  CE2 PHE D 113     101.054  33.942   8.646  1.00 21.21      D
ATOM   3881  CZ  PHE D 113     100.144  33.660   9.669  1.00 20.87      D
ATOM   3882  C   PHE D 113     103.201  37.871   9.071  1.00 19.98      D
ATOM   3883  O   PHE D 113     103.762  38.238   8.044  1.00 20.80      D
ATOM   3884  N   PRO D 114     103.765  37.005   9.925  1.00 21.26      D
ATOM   3885  CD  PRO D 114     105.101  36.414   9.732  1.00 21.94      D
ATOM   3886  CA  PRO D 114     103.150  36.518  11.166  1.00 21.41      D
ATOM   3887  CB  PRO D 114     104.117  35.424  11.625  1.00 21.03      D
ATOM   3888  CG  PRO D 114     105.441  35.912  11.115  1.00 22.98      D
ATOM   3889  C   PRO D 114     103.002  37.648  12.185  1.00 21.84      D
ATOM   3890  O   PRO D 114     103.621  38.711  12.034  1.00 20.41      D
ATOM   3891  N   PRO D 115     102.167  37.441  13.222  1.00 22.52      D
ATOM   3892  CD  PRO D 115     101.314  36.256  13.445  1.00 22.08      D
ATOM   3893  CA  PRO D 115     101.937  38.448  14.266  1.00 21.19      D
ATOM   3894  CB  PRO D 115     100.730  37.895  15.025  1.00 20.92      D
ATOM   3895  CG  PRO D 115     100.917  36.410  14.902  1.00 19.88      D
ATOM   3896  C   PRO D 115     103.139  38.683  15.171  1.00 21.62      D
ATOM   3897  O   PRO D 115     103.127  38.336  16.356  1.00 22.92      D
ATOM   3898  N   VAL D 116     104.179  39.263  14.588  1.00 21.58      D
ATOM   3899  CA  VAL D 116     105.405  39.598  15.300  1.00 22.53      D
ATOM   3900  CB  VAL D 116     106.520  38.554  15.067  1.00 24.90      D
ATOM   3901  CG1 VAL D 116     107.817  39.035  15.713  1.00 24.06      D
ATOM   3902  CG2 VAL D 116     106.104  37.195  15.641  1.00 24.88      D
ATOM   3903  C   VAL D 116     105.855  40.929  14.708  1.00 21.86      D
ATOM   3904  O   VAL D 116     106.114  41.027  13.509  1.00 20.87      D
ATOM   3905  N   VAL D 117     105.935  41.962  15.534  1.00 20.65      D
ATOM   3906  CA  VAL D 117     106.338  43.255  15.007  1.00 21.60      D
ATOM   3907  CB  VAL D 117     105.126  43.978  14.345  1.00 18.11      D
ATOM   3908  CG1 VAL D 117     104.156  44.473  15.403  1.00 16.63      D
ATOM   3909  CG2 VAL D 117     105.599  45.101  13.469  1.00 17.02      D
ATOM   3910  C   VAL D 117     106.928  44.137  16.092  1.00 23.84      D
ATOM   3911  O   VAL D 117     106.677  43.936  17.280  1.00 24.78      D
ATOM   3912  N   ASN D 118     107.719  45.113  15.670  1.00 27.93      D
ATOM   3913  CA  ASN D 118     108.348  46.051  16.593  1.00 30.45      D
ATOM   3914  CB  ASN D 118     109.866  45.898  16.538  1.00 33.93      D
ATOM   3915  CG  ASN D 118     110.564  46.644  17.650  1.00 39.88      D
ATOM   3916  OD1 ASN D 118     110.327  47.834  17.856  1.00 42.45      D
ATOM   3917  ND2 ASN D 118     111.438  45.946  18.375  1.00 43.14      D
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ATOM   3918  C   ASN D 118     107.960  47.465  16.181  1.00 27.72      D
ATOM   3919  O   ASN D 118     108.398  47.952  15.140  1.00 26.88      D
ATOM   3920  N   ILE D 119     107.126  48.113  16.988  1.00 27.59      D
ATOM   3921  CA  ILE D 119     106.680  49.476  16.700  1.00 27.12      D
ATOM   3922  CB  ILE D 119     105.133  49.580  16.719  1.00 27.17      D
ATOM   3923  CG2 ILE D 119     104.698  50.994  16.346  1.00 26.16      D
ATOM   3924  CG1 ILE D 119     104.528  48.572  15.741  1.00 24.63      D
ATOM   3925  CD1 ILE D 119     103.026  48.423  15.877  1.00 24.19      D
ATOM   3926  C   ILE D 119     107.243  50.436  17.746  1.00 27.72      D
ATOM   3927  O   ILE D 119     107.050  50.248  18.946  1.00 26.86      D
ATOM   3928  N   THR D 120     107.951  51.460  17.291  1.00 27.54      D
ATOM   3929  CA  THR D 120     108.524  52.423  18.214  1.00 29.37      D
ATOM   3930  CB  THR D 120     110.022  52.131  18.477  1.00 32.22      D
ATOM   3931  OG1 THR D 120     110.722  52.034  17.229  1.00 35.14      D
ATOM   3932  CG2 THR D 120     110.176  50.817  19.247  1.00 35.67      D
ATOM   3933  C   THR D 120     108.369  53.826  17.668  1.00 27.95      D
ATOM   3934  O   THR D 120     108.398  54.035  16.459  1.00 29.89      D
ATOM   3935  N   TRP D 121     108.187  54.789  18.560  1.00 26.28      D
ATOM   3936  CA  TRP D 121     108.031  56.171  18.135  1.00 26.93      D
ATOM   3937  CB  TRP D 121     106.935  56.866  18.940  1.00 24.20      D
ATOM   3938  CG  TRP D 121     105.568  56.343  18.687  1.00 22.03      D
ATOM   3939  CD2 TRP D 121     104.643  56.826  17.707  1.00 20.30      D
ATOM   3940  CE2 TRP D 121     103.454  56.085  17.856  1.00 20.70      D
ATOM   3941  CE3 TRP D 121     104.705  57.817  16.717  1.00 17.15      D
ATOM   3942  CD1 TRP D 121     104.929  55.351  19.365  1.00 21.06      D
ATOM   3943  NE1 TRP D 121     103.655  55.190  18.875  1.00 22.39      D
ATOM   3944  CZ2 TRP D 121     102.332  56.305  17.057  1.00 17.25      D
ATOM   3945  CZ3 TRP D 121     103.593  58.036  15.924  1.00 17.92      D
ATOM   3946  CH2 TRP D 121     102.419  57.282  16.099  1.00 19.11      D
ATOM   3947  C   TRP D 121     109.319  56.957  18.284  1.00 26.88      D
ATOM   3948  O   TRP D 121     110.059  56.789  19.251  1.00 27.48      D
ATOM   3949  N   LEU D 122     109.572  57.830  17.321  1.00 29.82      D
ATOM   3950  CA  LEU D 122     110.764  58.658  17.343  1.00 31.91      D
ATOM   3951  CB  LEU D 122     111.664  58.331  16.144  1.00 34.65      D
ATOM   3952  CG  LEU D 122     112.391  56.977  16.112  1.00 37.28      D
ATOM   3953  CD1 LEU D 122     113.247  56.828  17.360  1.00 37.11      D
ATOM   3954  CD2 LEU D 122     111.394  55.840  16.025  1.00 39.41      D
ATOM   3955  C   LEU D 122     110.416  60.142  17.324  1.00 31.97      D
ATOM   3956  O   LEU D 122     109.619  60.593  16.503  1.00 31.46      D
ATOM   3957  N   SER D 123     111.010  60.889  18.250  1.00 31.03      D
ATOM   3958  CA  SER D 123     110.813  62.331  18.326  1.00 33.04      D
ATOM   3959  CB  SER D 123     110.312  62.745  19.712  1.00 32.42      D
ATOM   3960  OG  SER D 123     110.169  64.154  19.793  1.00 32.43      D
ATOM   3961  C   SER D 123     112.184  62.948  18.062  1.00 33.10      D
ATOM   3962  O   SER D 123     113.108  62.784  18.860  1.00 33.57      D
ATOM   3963  N   ASN D 124     112.309  63.646  16.941  1.00 33.51      D
ATOM   3964  CA  ASN D 124     113.575  64.258  16.553  1.00 36.20      D
ATOM   3965  CB  ASN D 124     113.963  65.392  17.510  1.00 34.61      D
ATOM   3966  CG  ASN D 124     112.946  66.512  17.531  1.00 34.17      D
ATOM   3967  OD1 ASN D 124     112.262  66.764  16.539  1.00 34.73      D
ATOM   3968  ND2 ASN D 124     112.850  67.202  18.660  1.00 35.34      D
ATOM   3969  C   ASN D 124     114.664  63.191  16.561  1.00 37.34      D
ATOM   3970  O   ASN D 124     115.747  63.401  17.104  1.00 37.93      D
ATOM   3971  N   GLY D 125     114.358  62.039  15.970  1.00 38.73      D
ATOM   3972  CA  GLY D 125     115.317  60.951  15.910  1.00 39.56      D
ATOM   3973  C   GLY D 125     115.457  60.131  17.183  1.00 40.55      D
ATOM   3974  O   GLY D 125     116.051  59.054  17.157  1.00 42.52      D
ATOM   3975  N   HIS D 126     114.911  60.622  18.291  1.00 40.35      D
ATOM   3976  CA  HIS D 126     115.009  59.918  19.569  1.00 41.15      D
ATOM   3977  CB  HIS D 126     115.234  60.923  20.702  1.00 43.51      D
ATOM   3978  CG  HIS D 126     116.525  61.678  20.599  1.00 47.67      D
ATOM   3979  CD2 HIS D 126     116.775  62.997  20.422  1.00 47.36      D
ATOM   3980  ND1 HIS D 126     117.757  61.064  20.694  1.00 49.39      D
ATOM   3981  CE1 HIS D 126     118.709  61.973  20.581  1.00 48.59      D
ATOM   3982  NE2 HIS D 126     118.140  63.154  20.415  1.00 48.17      D
ATOM   3983  C   HIS D 126     113.794  59.053  19.907  1.00 40.38      D
ATOM   3984  O   HIS D 126     112.648  59.458  19.706  1.00 39.87      D
ATOM   3985  N   SER D 127     114.056  57.863  20.438  1.00 39.11      D
ATOM   3986  CA  SER D 127     112.995  56.939  20.821  1.00 39.54      D
ATOM   3987  CB  SER D 127     113.592  55.592  21.232  1.00 40.04      D
ATOM   3988  OG  SER D 127     114.299  55.001  20.159  1.00 45.08      D
ATOM   3989  C   SER D 127     112.167  57.492  21.979  1.00 38.18      D
ATOM   3990  O   SER D 127     112.707  58.054  22.930  1.00 38.52      D
ATOM   3991  N   VAL D 128     110.854  57.326  21.894  1.00 36.40      D
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ATOM   3992  CA  VAL D 128     109.967  57.800  22.942  1.00 35.00      D
ATOM   3993  CB  VAL D 128     108.699  58.444  22.358  1.00 33.68      D
ATOM   3994  CG1 VAL D 128     107.834  59.001  23.479  1.00 32.31      D
ATOM   3995  CG2 VAL D 128     109.081  59.543  21.383  1.00 32.69      D
ATOM   3996  C   VAL D 128     109.574  56.608  23.790  1.00 34.62      D
ATOM   3997  O   VAL D 128     109.150  55.584  23.268  1.00 35.98      D
ATOM   3998  N   THR D 129     109.715  56.743  25.100  1.00 35.57      D
ATOM   3999  CA  THR D 129     109.393  55.653  26.007  1.00 38.21      D
ATOM   4000  CB  THR D 129     110.562  55.410  26.992  1.00 40.63      D
ATOM   4001  OG1 THR D 129     110.184  54.413  27.949  1.00 44.78      D
ATOM   4002  CG2 THR D 129     110.929  56.700  27.715  1.00 42.66      D
ATOM   4003  C   THR D 129     108.103  55.862  26.799  1.00 36.54      D
ATOM   4004  O   THR D 129     107.359  54.911  27.042  1.00 38.87      D
ATOM   4005  N   GLU D 130     107.833  57.101  27.195  1.00 33.00      D
ATOM   4006  CA  GLU D 130     106.631  57.401  27.963  1.00 31.03      D
ATOM   4007  CB  GLU D 130     106.935  58.453  29.039  1.00 33.90      D
ATOM   4008  CG  GLU D 130     108.067  58.089  29.987  1.00 38.08      D
ATOM   4009  CD  GLU D 130     107.809  56.788  30.731  1.00 43.43      D
ATOM   4010  OE1 GLU D 130     106.744  56.672  31.375  1.00 45.61      D
ATOM   4011  OE2 GLU D 130     108.671  55.879  30.675  1.00 45.67      D
ATOM   4012  C   GLU D 130     105.521  57.922  27.058  1.00 27.87      D
ATOM   4013  O   GLU D 130     105.795  58.527  26.029  1.00 24.56      D
ATOM   4014  N   GLY D 131     104.272  57.692  27.457  1.00 26.29      D
ATOM   4015  CA  GLY D 131     103.140  58.166  26.679  1.00 25.19      D
ATOM   4016  C   GLY D 131     102.826  57.304  25.474  1.00 24.46      D
ATOM   4017  O   GLY D 131     102.130  57.725  24.559  1.00 23.65      D
ATOM   4018  N   VAL D 132     103.349  56.089  25.476  1.00 22.83      D
ATOM   4019  CA  VAL D 132     103.117  55.169  24.379  1.00 23.04      D
ATOM   4020  CB  VAL D 132     104.448  54.674  23.784  1.00 22.91      D
ATOM   4021  CG1 VAL D 132     104.182  53.538  22.821  1.00 24.12      D
ATOM   4022  CG2 VAL D 132     105.164  55.816  23.076  1.00 22.85      D
ATOM   4023  C   VAL D 132     102.326  53.943  24.829  1.00 21.91      D
ATOM   4024  O   VAL D 132     102.535  53.416  25.917  1.00 21.27      D
ATOM   4025  N   SER D 133     101.412  53.499  23.979  1.00 22.08      D
ATOM   4026  CA  SER D 133     100.622  52.307  24.251  1.00 21.07      D
ATOM   4027  CB  SER D 133      99.405  52.637  25.119  1.00 21.95      D
ATOM   4028  OG  SER D 133      98.567  53.595  24.498  1.00 27.01      D
ATOM   4029  C   SER D 133     100.178  51.738  22.908  1.00 21.27      D
ATOM   4030  O   SER D 133     100.344  52.369  21.864  1.00 19.82      D
ATOM   4031  N   GLU D 134      99.627  50.538  22.926  1.00 20.29      D
ATOM   4032  CA  GLU D 134      99.182  49.938  21.689  1.00 24.12      D
ATOM   4033  CB  GLU D 134     100.370  49.323  20.932  1.00 26.01      D
ATOM   4034  CG  GLU D 134     100.932  48.045  21.532  1.00 30.80      D
ATOM   4035  CD  GLU D 134     102.080  47.480  20.704  1.00 35.43      D
ATOM   4036  OE1 GLU D 134     102.273  46.243  20.702  1.00 36.93      D
ATOM   4037  OE2 GLU D 134     102.793  48.278  20.057  1.00 37.66      D
ATOM   4038  C   GLU D 134      98.127  48.882  21.955  1.00 22.81      D
ATOM   4039  O   GLU D 134      97.968  48.416  23.081  1.00 22.94      D
ATOM   4040  N   THR D 135      97.400  48.522  20.908  1.00 21.95      D
ATOM   4041  CA  THR D 135      96.361  47.519  21.009  1.00 20.78      D
ATOM   4042  CB  THR D 135      95.368  47.625  19.843  1.00 20.82      D
ATOM   4043  OG1 THR D 135      96.032  47.262  18.623  1.00 22.24      D
ATOM   4044  CG2 THR D 135      94.833  49.046  19.721  1.00 18.01      D
ATOM   4045  C   THR D 135      97.037  46.168  20.890  1.00 20.80      D
ATOM   4046  O   THR D 135      98.259  46.084  20.742  1.00 21.08      D
ATOM   4047  N   SER D 136      96.234  45.116  20.972  1.00 19.11      D
ATOM   4048  CA  SER D 136      96.728  43.764  20.790  1.00 16.93      D
ATOM   4049  CB  SER D 136      95.769  42.755  21.428  1.00 19.17      D
ATOM   4050  OG  SER D 136      95.656  42.951  22.831  1.00 23.01      D
ATOM   4051  C   SER D 136      96.665  43.635  19.267  1.00 15.30      D
ATOM   4052  O   SER D 136      96.325  44.592  18.580  1.00 13.19      D
ATOM   4053  N   PHE D 137      97.002  42.472  18.733  1.00 16.43      D
ATOM   4054  CA  PHE D 137      96.896  42.267  17.294  1.00 16.20      D
ATOM   4055  CB  PHE D 137      97.652  41.001  16.874  1.00 15.86      D
ATOM   4056  CG  PHE D 137      99.138  41.146  16.879  1.00 17.29      D
ATOM   4057  CD1 PHE D 137      99.792  41.775  15.823  1.00 20.23      D
ATOM   4058  CD2 PHE D 137      99.894  40.644  17.932  1.00 17.79      D
ATOM   4059  CE1 PHE D 137     101.187  41.900  15.815  1.00 21.20      D
ATOM   4060  CE2 PHE D 137     101.291  40.762  17.936  1.00 19.39      D
ATOM   4061  CZ  PHE D 137     101.935  41.392  16.874  1.00 19.70      D
ATOM   4062  C   PHE D 137      95.402  42.056  17.025  1.00 16.08      D
ATOM   4063  O   PHE D 137      94.823  41.121  17.556  1.00 15.19      D
ATOM   4064  N   LEU D 138      94.786  42.925  16.227  1.00 19.23      D
ATOM   4065  CA  LEU D 138      93.367  42.797  15.882  1.00 21.12      D
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ATOM	4066	CB	LEU	D	138	92.722	44.175	15.678	1.00	21.40	D
ATOM	4067	CG	LEU	D	138	92.452	45.087	16.881	1.00	22.42	D
ATOM	4068	CD1	LEU	D	138	91.889	44.277	18.032	1.00	23.38	D
ATOM	4069	CD2	LEU	D	138	93.732	45.764	17.301	1.00	28.68	D
ATOM	4070	C	LEU	D	138	93.230	41.982	14.593	1.00	20.56	D
ATOM	4071	O	LEU	D	138	93.919	42.244	13.615	1.00	22.27	D
ATOM	4072	N	SER	D	139	92.326	41.013	14.586	1.00	20.44	D
ATOM	4073	CA	SER	D	139	92.143	40.142	13.427	1.00	19.23	D
ATOM	4074	CB	SER	D	139	91.222	38.986	13.788	1.00	19.74	D
ATOM	4075	OG	SER	D	139	89.888	39.443	13.861	1.00	21.32	D
ATOM	4076	C	SER	D	139	91.594	40.802	12.168	1.00	19.43	D
ATOM	4077	O	SER	D	139	91.028	41.893	12.210	1.00	19.49	D
ATOM	4078	N	LYS	D	140	91.755	40.102	11.050	1.00	18.62	D
ATOM	4079	CA	LYS	D	140	91.276	40.553	9.749	1.00	19.20	D
ATOM	4080	CB	LYS	D	140	92.437	41.058	8.895	1.00	18.92	D
ATOM	4081	CG	LYS	D	140	93.286	42.126	9.554	1.00	19.38	D
ATOM	4082	CD	LYS	D	140	93.254	43.393	8.758	1.00	20.95	D
ATOM	4083	CE	LYS	D	140	93.833	43.195	7.377	1.00	18.23	D
ATOM	4084	NZ	LYS	D	140	93.743	44.457	6.617	1.00	20.40	D
ATOM	4085	C	LYS	D	140	90.660	39.339	9.068	1.00	19.16	D
ATOM	4086	O	LYS	D	140	91.091	38.217	9.312	1.00	19.77	D
ATOM	4087	N	SER	D	141	89.670	39.552	8.207	1.00	21.60	D
ATOM	4088	CA	SER	D	141	89.030	38.438	7.507	1.00	23.19	D
ATOM	4089	CB	SER	D	141	87.859	38.948	6.653	1.00	24.88	D
ATOM	4090	OG	SER	D	141	88.288	39.858	5.655	1.00	28.69	D
ATOM	4091	C	SER	D	141	89.989	37.605	6.636	1.00	23.26	D
ATOM	4092	O	SER	D	141	89.692	36.454	6.327	1.00	23.33	D
ATOM	4093	N	ASP	D	142	91.137	38.159	6.251	1.00	21.38	D
ATOM	4094	CA	ASP	D	142	92.075	37.387	5.429	1.00	22.54	D
ATOM	4095	CB	ASP	D	142	92.834	38.303	4.466	1.00	25.84	D
ATOM	4096	CG	ASP	D	142	93.943	39.064	5.143	1.00	29.78	D
ATOM	4097	OD1	ASP	D	142	93.760	39.486	6.309	1.00	31.16	D
ATOM	4098	OD2	ASP	D	142	94.997	39.246	4.500	1.00	34.64	D
ATOM	4099	C	ASP	D	142	93.045	36.637	6.336	1.00	22.89	D
ATOM	4100	O	ASP	D	142	94.027	36.037	5.883	1.00	20.54	D
ATOM	4101	N	HIS	D	143	92.753	36.700	7.632	1.00	21.06	D
ATOM	4102	CA	HIS	D	143	93.522	36.020	8.659	1.00	19.58	D
ATOM	4103	CB	HIS	D	143	93.628	34.534	8.317	1.00	19.03	D
ATOM	4104	CG	HIS	D	143	92.295	33.892	8.104	1.00	23.00	D
ATOM	4105	CD2	HIS	D	143	91.827	33.108	7.104	1.00	24.78	D
ATOM	4106	ND1	HIS	D	143	91.237	34.087	8.967	1.00	21.97	D
ATOM	4107	CE1	HIS	D	143	90.174	33.455	8.505	1.00	24.67	D
ATOM	4108	NE2	HIS	D	143	90.504	32.853	7.375	1.00	24.72	D
ATOM	4109	C	HIS	D	143	94.878	36.602	8.986	1.00	20.11	D
ATOM	4110	O	HIS	D	143	95.691	35.962	9.654	1.00	21.09	D
ATOM	4111	N	SER	D	144	95.118	37.820	8.514	1.00	21.24	D
ATOM	4112	CA	SER	D	144	96.352	38.525	8.826	1.00	21.79	D
ATOM	4113	CB	SER	D	144	96.834	39.353	7.627	1.00	20.33	D
ATOM	4114	OG	SER	D	144	96.047	40.511	7.434	1.00	24.32	D
ATOM	4115	C	SER	D	144	95.940	39.440	9.990	1.00	21.43	D
ATOM	4116	O	SER	D	144	94.830	39.317	10.504	1.00	20.74	D
ATOM	4117	N	PHE	D	145	96.809	40.352	10.412	1.00	21.56	D
ATOM	4118	CA	PHE	D	145	96.463	41.235	11.523	1.00	22.54	D
ATOM	4119	CB	PHE	D	145	97.156	40.791	12.817	1.00	22.63	D
ATOM	4120	CG	PHE	D	145	96.896	39.368	13.200	1.00	25.73	D
ATOM	4121	CD1	PHE	D	145	97.565	38.329	12.562	1.00	26.67	D
ATOM	4122	CD2	PHE	D	145	95.987	39.063	14.207	1.00	23.65	D
ATOM	4123	CE1	PHE	D	145	97.333	37.004	12.921	1.00	27.30	D
ATOM	4124	CE2	PHE	D	145	95.750	37.746	14.572	1.00	25.43	D
ATOM	4125	CZ	PHE	D	145	96.426	36.713	13.926	1.00	24.90	D
ATOM	4126	C	PHE	D	145	96.850	42.687	11.299	1.00	22.51	D
ATOM	4127	O	PHE	D	145	97.540	43.028	10.339	1.00	23.97	D
ATOM	4128	N	PHE	D	146	96.371	43.540	12.198	1.00	20.96	D
ATOM	4129	CA	PHE	D	146	96.729	44.946	12.190	1.00	19.68	D
ATOM	4130	CB	PHE	D	146	95.696	45.817	11.439	1.00	17.70	D
ATOM	4131	CG	PHE	D	146	94.392	46.041	12.159	1.00	15.76	D
ATOM	4132	CD1	PHE	D	146	94.201	47.173	12.948	1.00	16.08	D
ATOM	4133	CD2	PHE	D	146	93.321	45.170	11.976	1.00	14.70	D
ATOM	4134	CE1	PHE	D	146	92.961	47.442	13.543	1.00	13.47	D
ATOM	4135	CE2	PHE	D	146	92.080	45.426	12.563	1.00	15.43	D
ATOM	4136	CZ	PHE	D	146	91.900	46.567	13.350	1.00	14.68	D
ATOM	4137	C	PHE	D	146	96.893	45.335	13.654	1.00	19.66	D
ATOM	4138	O	PHE	D	146	96.373	44.672	14.551	1.00	19.92	D
ATOM	4139	N	LYS	D	147	97.666	46.379	13.901	1.00	20.23	D

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ATOM   4140  CA  LYS D 147      97.910  46.817  15.260  1.00 19.84      D
ATOM   4141  CB  LYS D 147      99.184  46.148  15.796  1.00 21.50      D
ATOM   4142  CG  LYS D 147      99.651  46.679  17.134  1.00 24.87      D
ATOM   4143  CD  LYS D 147     100.764  45.832  17.724  1.00 27.18      D
ATOM   4144  CE  LYS D 147     100.220  44.515  18.253  1.00 31.41      D
ATOM   4145  NZ  LYS D 147     101.086  43.984  19.341  1.00 32.97      D
ATOM   4146  C   LYS D 147      98.038  48.324  15.274  1.00 18.69      D
ATOM   4147  O   LYS D 147      98.603  48.914  14.352  1.00 20.14      D
ATOM   4148  N   ILE D 148      97.497  48.944  16.314  1.00 18.22      D
ATOM   4149  CA  ILE D 148      97.530  50.387  16.446  1.00 18.25      D
ATOM   4150  CB  ILE D 148      96.092  50.942  16.548  1.00 20.80      D
ATOM   4151  CG2 ILE D 148      96.113  52.459  16.659  1.00 22.44      D
ATOM   4152  CG1 ILE D 148      95.308  50.533  15.292  1.00 23.89      D
ATOM   4153  CD1 ILE D 148      93.840  50.858  15.314  1.00 24.42      D
ATOM   4154  C   ILE D 148      98.369  50.816  17.646  1.00 19.71      D
ATOM   4155  O   ILE D 148      98.213  50.294  18.757  1.00 17.77      D
ATOM   4156  N   SER D 149      99.284  51.753  17.395  1.00 19.08      D
ATOM   4157  CA  SER D 149     100.173  52.278  18.424  1.00 18.19      D
ATOM   4158  CB  SER D 149     101.633  52.137  17.991  1.00 18.51      D
ATOM   4159  OG  SER D 149     102.518  52.492  19.040  1.00 19.49      D
ATOM   4160  C   SER D 149      99.839  53.744  18.646  1.00 18.14      D
ATOM   4161  O   SER D 149      99.591  54.490  17.693  1.00 18.17      D
ATOM   4162  N   TYR D 150      99.843  54.155  19.905  1.00 16.95      D
ATOM   4163  CA  TYR D 150      99.503  55.524  20.261  1.00 16.12      D
ATOM   4164  CB  TYR D 150      98.310  55.524  21.213  1.00 15.57      D
ATOM   4165  CG  TYR D 150      97.116  54.750  20.701  1.00 16.81      D
ATOM   4166  CD1 TYR D 150      96.291  55.276  19.709  1.00 14.33      D
ATOM   4167  CE1 TYR D 150      95.197  54.554  19.222  1.00 17.50      D
ATOM   4168  CD2 TYR D 150      96.819  53.486  21.199  1.00 15.90      D
ATOM   4169  CE2 TYR D 150      95.731  52.760  20.719  1.00 18.41      D
ATOM   4170  CZ  TYR D 150      94.928  53.297  19.732  1.00 16.27      D
ATOM   4171  OH  TYR D 150      93.868  52.574  19.244  1.00 20.03      D
ATOM   4172  C   TYR D 150     100.650  56.266  20.922  1.00 16.35      D
ATOM   4173  O   TYR D 150     101.438  55.690  21.669  1.00 16.95      D
ATOM   4174  N   LEU D 151     100.732  57.558  20.643  1.00 16.64      D
ATOM   4175  CA  LEU D 151     101.760  58.396  21.227  1.00 16.50      D
ATOM   4176  CB  LEU D 151     102.849  58.705  20.203  1.00 15.48      D
ATOM   4177  CG  LEU D 151     103.806  59.825  20.639  1.00 17.55      D
ATOM   4178  CD1 LEU D 151     104.641  59.374  21.834  1.00 16.60      D
ATOM   4179  CD2 LEU D 151     104.702  60.213  19.476  1.00 16.11      D
ATOM   4180  C   LEU D 151     101.140  59.701  21.693  1.00 17.56      D
ATOM   4181  O   LEU D 151     100.577  60.440  20.888  1.00 17.18      D
ATOM   4182  N   THR D 152     101.233  59.997  22.983  1.00 16.14      D
ATOM   4183  CA  THR D 152     100.690  61.259  23.448  1.00 19.47      D
ATOM   4184  CB  THR D 152     100.359  61.248  24.966  1.00 21.24      D
ATOM   4185  OG1 THR D 152     101.517  60.871  25.725  1.00 25.03      D
ATOM   4186  CG2 THR D 152      99.214  60.281  25.247  1.00 20.79      D
ATOM   4187  C   THR D 152     101.717  62.345  23.151  1.00 19.82      D
ATOM   4188  O   THR D 152     102.921  62.113  23.218  1.00 21.31      D
ATOM   4189  N   LEU D 153     101.241  63.523  22.781  1.00 20.76      D
ATOM   4190  CA  LEU D 153     102.143  64.617  22.488  1.00 24.15      D
ATOM   4191  CB  LEU D 153     102.760  64.450  21.089  1.00 25.45      D
ATOM   4192  CG  LEU D 153     101.959  64.575  19.785  1.00 27.17      D
ATOM   4193  CD1 LEU D 153     100.520  64.101  19.986  1.00 27.83      D
ATOM   4194  CD2 LEU D 153     101.982  66.015  19.319  1.00 27.38      D
ATOM   4195  C   LEU D 153     101.440  65.952  22.601  1.00 25.73      D
ATOM   4196  O   LEU D 153     100.208  66.028  22.681  1.00 26.55      D
ATOM   4197  N   LEU D 154     102.251  67.000  22.640  1.00 26.77      D
ATOM   4198  CA  LEU D 154     101.781  68.369  22.734  1.00 26.34      D
ATOM   4199  CB  LEU D 154     102.298  69.027  24.019  1.00 25.08      D
ATOM   4200  CG  LEU D 154     101.877  70.478  24.288  1.00 26.28      D
ATOM   4201  CD1 LEU D 154     100.377  70.531  24.570  1.00 24.44      D
ATOM   4202  CD2 LEU D 154     102.667  71.031  25.477  1.00 23.08      D
ATOM   4203  C   LEU D 154     102.374  69.063  21.522  1.00 28.41      D
ATOM   4204  O   LEU D 154     103.577  69.327  21.468  1.00 27.19      D
ATOM   4205  N   PRO D 155     101.534  69.351  20.523  1.00 30.32      D
ATOM   4206  CD  PRO D 155     100.109  68.979  20.453  1.00 30.25      D
ATOM   4207  CA  PRO D 155     101.965  70.014  19.294  1.00 31.71      D
ATOM   4208  CB  PRO D 155     100.667  70.160  18.510  1.00 31.92      D
ATOM   4209  CG  PRO D 155      99.861  68.968  18.963  1.00 31.51      D
ATOM   4210  C   PRO D 155     102.663  71.354  19.508  1.00 35.12      D
ATOM   4211  O   PRO D 155     102.110  72.275  20.112  1.00 35.64      D
ATOM   4212  N   SER D 156     103.893  71.436  19.014  1.00 39.00      D
ATOM   4213  CA  SER D 156     104.706  72.643  19.083  1.00 42.94      D
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ATOM   4214  CB  SER D 156     105.819  72.492  20.121  1.00 43.03      D
ATOM   4215  OG  SER D 156     105.288  72.385  21.430  1.00 45.30      D
ATOM   4216  C   SER D 156     105.311  72.763  17.694  1.00 46.03      D
ATOM   4217  O   SER D 156     104.875  72.084  16.770  1.00 47.06      D
ATOM   4218  N   ALA D 157     106.316  73.609  17.534  1.00 49.61      D
ATOM   4219  CA  ALA D 157     106.931  73.756  16.222  1.00 51.03      D
ATOM   4220  CB  ALA D 157     106.977  75.231  15.828  1.00 51.20      D
ATOM   4221  C   ALA D 157     108.334  73.163  16.195  1.00 51.50      D
ATOM   4222  O   ALA D 157     108.985  73.147  15.150  1.00 52.20      D
ATOM   4223  N   GLU D 158     108.797  72.669  17.339  1.00 52.37      D
ATOM   4224  CA  GLU D 158     110.141  72.103  17.411  1.00 53.43      D
ATOM   4225  CB  GLU D 158     110.946  72.785  18.524  1.00 57.17      D
ATOM   4226  CG  GLU D 158     110.401  72.570  19.934  1.00 61.50      D
ATOM   4227  CD  GLU D 158     109.278  73.529  20.291  1.00 63.75      D
ATOM   4228  OE1 GLU D 158     108.757  73.431  21.425  1.00 63.56      D
ATOM   4229  OE2 GLU D 158     108.922  74.381  19.445  1.00 65.17      D
ATOM   4230  C   GLU D 158     110.190  70.592  17.614  1.00 51.03      D
ATOM   4231  O   GLU D 158     111.103  70.084  18.265  1.00 51.07      D
ATOM   4232  N   GLU D 159     109.219  69.876  17.057  1.00 47.47      D
ATOM   4233  CA  GLU D 159     109.185  68.425  17.193  1.00 46.22      D
ATOM   4234  CB  GLU D 159     108.337  68.013  18.406  1.00 47.11      D
ATOM   4235  CG  GLU D 159     109.127  67.692  19.671  1.00 48.53      D
ATOM   4236  CD  GLU D 159     108.268  67.042  20.751  1.00 50.37      D
ATOM   4237  OE1 GLU D 159     107.319  67.694  21.238  1.00 50.39      D
ATOM   4238  OE2 GLU D 159     108.537  65.873  21.112  1.00 50.03      D
ATOM   4239  C   GLU D 159     108.641  67.714  15.960  1.00 43.84      D
ATOM   4240  O   GLU D 159     107.515  67.974  15.535  1.00 44.12      D
ATOM   4241  N   SER D 160     109.443  66.825  15.380  1.00 39.56      D
ATOM   4242  CA  SER D 160     108.993  66.054  14.229  1.00 37.29      D
ATOM   4243  CB  SER D 160     109.971  66.172  13.055  1.00 37.41      D
ATOM   4244  OG  SER D 160     111.070  65.298  13.206  1.00 41.72      D
ATOM   4245  C   SER D 160     108.933  64.615  14.734  1.00 35.08      D
ATOM   4246  O   SER D 160     109.754  64.207  15.557  1.00 33.66      D
ATOM   4247  N   TYR D 161     107.961  63.846  14.260  1.00 32.11      D
ATOM   4248  CA  TYR D 161     107.828  62.478  14.728  1.00 29.69      D
ATOM   4249  CB  TYR D 161     106.550  62.315  15.547  1.00 29.62      D
ATOM   4250  CG  TYR D 161     106.347  63.349  16.620  1.00 29.33      D
ATOM   4251  CD1 TYR D 161     105.761  64.577  16.327  1.00 31.31      D
ATOM   4252  CE1 TYR D 161     105.513  65.515  17.329  1.00 32.70      D
ATOM   4253  CD2 TYR D 161     106.695  63.085  17.937  1.00 30.13      D
ATOM   4254  CE2 TYR D 161     106.457  64.013  18.947  1.00 30.43      D
ATOM   4255  CZ  TYR D 161     105.863  65.223  18.638  1.00 31.92      D
ATOM   4256  OH  TYR D 161     105.592  66.128  19.643  1.00 35.12      D
ATOM   4257  C   TYR D 161     107.820  61.441  13.627  1.00 29.60      D
ATOM   4258  O   TYR D 161     107.493  61.728  12.473  1.00 29.45      D
ATOM   4259  N   ASP D 162     108.172  60.221  14.005  1.00 29.35      D
ATOM   4260  CA  ASP D 162     108.201  59.109  13.075  1.00 30.15      D
ATOM   4261  CB  ASP D 162     109.618  58.863  12.548  1.00 34.90      D
ATOM   4262  CG  ASP D 162     110.154  60.016  11.733  1.00 37.70      D
ATOM   4263  OD1 ASP D 162     109.669  60.218  10.597  1.00 40.13      D
ATOM   4264  OD2 ASP D 162     111.061  60.716  12.235  1.00 38.68      D
ATOM   4265  C   ASP D 162     107.759  57.851  13.784  1.00 29.84      D
ATOM   4266  O   ASP D 162     108.010  57.672  14.978  1.00 26.72      D
ATOM   4267  N   CYS D 163     107.088  56.984  13.039  1.00 29.31      D
ATOM   4268  CA  CYS D 163     106.684  55.700  13.569  1.00 29.59      D
ATOM   4269  C   CYS D 163     107.689  54.769  12.902  1.00 28.04      D
ATOM   4270  O   CYS D 163     107.822  54.772  11.685  1.00 26.22      D
ATOM   4271  CB  CYS D 163     105.265  55.326  13.134  1.00 29.11      D
ATOM   4272  SG  CYS D 163     104.703  53.760  13.878  1.00 34.32      D
ATOM   4273  N   LYS D 164     108.417  54.001  13.699  1.00 29.03      D
ATOM   4274  CA  LYS D 164     109.404  53.072  13.161  1.00 29.67      D
ATOM   4275  CB  LYS D 164     110.730  53.238  13.911  1.00 32.54      D
ATOM   4276  CG  LYS D 164     111.874  52.352  13.416  1.00 34.76      D
ATOM   4277  CD  LYS D 164     113.109  52.528  14.297  1.00 34.79      D
ATOM   4278  CE  LYS D 164     114.254  51.630  13.850  1.00 38.29      D
ATOM   4279  NZ  LYS D 164     115.425  51.702  14.775  1.00 36.58      D
ATOM   4280  C   LYS D 164     108.863  51.651  13.322  1.00 28.94      D
ATOM   4281  O   LYS D 164     108.642  51.189  14.443  1.00 29.32      D
ATOM   4282  N   VAL D 165     108.632  50.974  12.197  1.00 27.33      D
ATOM   4283  CA  VAL D 165     108.100  49.618  12.212  1.00 26.58      D
ATOM   4284  CB  VAL D 165     106.797  49.516  11.359  1.00 27.12      D
ATOM   4285  CG1 VAL D 165     106.199  48.122  11.462  1.00 25.56      D
ATOM   4286  CG2 VAL D 165     105.787  50.544  11.827  1.00 27.97      D
ATOM   4287  C   VAL D 165     109.113  48.600  11.690  1.00 26.91      D
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ATOM   4288  O   VAL D 165     109.621  48.720  10.583  1.00 25.56      D
ATOM   4289  N   GLU D 166     109.414  47.606  12.513  1.00 28.75      D
ATOM   4290  CA  GLU D 166     110.338  46.544  12.139  1.00 30.67      D
ATOM   4291  CB  GLU D 166     111.445  46.410  13.194  1.00 33.57      D
ATOM   4292  CG  GLU D 166     112.452  47.565  13.142  1.00 41.68      D
ATOM   4293  CD  GLU D 166     113.506  47.526  14.244  1.00 46.12      D
ATOM   4294  OE1 GLU D 166     114.482  48.304  14.146  1.00 49.01      D
ATOM   4295  OE2 GLU D 166     113.363  46.736  15.206  1.00 49.40      D
ATOM   4296  C   GLU D 166     109.543  45.243  12.008  1.00 30.18      D
ATOM   4297  O   GLU D 166     108.737  44.900  12.878  1.00 28.51      D
ATOM   4298  N   HIS D 167     109.759  44.535  10.907  1.00 29.48      D
ATOM   4299  CA  HIS D 167     109.056  43.281  10.648  1.00 30.29      D
ATOM   4300  CB  HIS D 167     107.686  43.569  10.025  1.00 29.56      D
ATOM   4301  CG  HIS D 167     106.808  42.363   9.903  1.00 30.02      D
ATOM   4302  CD2 HIS D 167     106.562  41.541   8.856  1.00 29.91      D
ATOM   4303  ND1 HIS D 167     106.068  41.871  10.957  1.00 31.27      D
ATOM   4304  CE1 HIS D 167     105.404  40.798  10.564  1.00 28.43      D
ATOM   4305  NE2 HIS D 167     105.687  40.576   9.293  1.00 28.97      D
ATOM   4306  C   HIS D 167     109.886  42.440   9.684  1.00 30.36      D
ATOM   4307  O   HIS D 167     110.607  42.976   8.842  1.00 30.66      D
ATOM   4308  N   TRP D 168     109.775  41.122   9.801  1.00 31.13      D
ATOM   4309  CA  TRP D 168     110.521  40.219   8.930  1.00 32.08      D
ATOM   4310  CB  TRP D 168     110.270  38.765   9.336  1.00 28.28      D
ATOM   4311  CG  TRP D 168     110.665  38.475  10.739  1.00 26.36      D
ATOM   4312  CD2 TRP D 168     110.031  37.556  11.635  1.00 25.51      D
ATOM   4313  CE2 TRP D 168     110.759  37.578  12.842  1.00 26.35      D
ATOM   4314  CE3 TRP D 168     108.916  36.715  11.534  1.00 24.88      D
ATOM   4315  CD1 TRP D 168     111.721  39.004  11.416  1.00 27.27      D
ATOM   4316  NE1 TRP D 168     111.786  38.471  12.682  1.00 28.25      D
ATOM   4317  CZ2 TRP D 168     110.412  36.791  13.943  1.00 27.00      D
ATOM   4318  CZ3 TRP D 168     108.568  35.932  12.628  1.00 25.90      D
ATOM   4319  CH2 TRP D 168     109.315  35.976  13.817  1.00 26.65      D
ATOM   4320  C   TRP D 168     110.180  40.403   7.452  1.00 33.22      D
ATOM   4321  O   TRP D 168     111.011  40.139   6.582  1.00 33.90      D
ATOM   4322  N   GLY D 169     108.959  40.853   7.174  1.00 34.75      D
ATOM   4323  CA  GLY D 169     108.533  41.060   5.797  1.00 36.14      D
ATOM   4324  C   GLY D 169     109.056  42.359   5.215  1.00 37.80      D
ATOM   4325  O   GLY D 169     108.635  42.796   4.139  1.00 36.95      D
ATOM   4326  N   LEU D 170     109.979  42.981   5.938  1.00 38.89      D
ATOM   4327  CA  LEU D 170     110.578  44.234   5.509  1.00 40.79      D
ATOM   4328  CB  LEU D 170     110.212  45.356   6.480  1.00 39.77      D
ATOM   4329  CG  LEU D 170     108.745  45.765   6.581  1.00 39.57      D
ATOM   4330  CD1 LEU D 170     108.592  46.809   7.671  1.00 38.10      D
ATOM   4331  CD2 LEU D 170     108.267  46.308   5.243  1.00 39.58      D
ATOM   4332  C   LEU D 170     112.092  44.085   5.465  1.00 42.12      D
ATOM   4333  O   LEU D 170     112.688  43.506   6.370  1.00 41.54      D
ATOM   4334  N   ASP D 171     112.706  44.613   4.411  1.00 45.36      D
ATOM   4335  CA  ASP D 171     114.158  44.559   4.252  1.00 48.35      D
ATOM   4336  CB  ASP D 171     114.539  44.947   2.820  1.00 50.69      D
ATOM   4337  CG  ASP D 171     113.467  45.775   2.137  1.00 52.75      D
ATOM   4338  OD1 ASP D 171     113.076  46.827   2.689  1.00 54.19      D
ATOM   4339  OD2 ASP D 171     113.012  45.372   1.046  1.00 54.32      D
ATOM   4340  C   ASP D 171     114.849  45.485   5.255  1.00 48.43      D
ATOM   4341  O   ASP D 171     115.816  45.090   5.910  1.00 48.29      D
ATOM   4342  N   LYS D 172     114.348  46.715   5.364  1.00 48.92      D
ATOM   4343  CA  LYS D 172     114.883  47.707   6.299  1.00 49.86      D
ATOM   4344  CB  LYS D 172     115.502  48.898   5.552  1.00 51.58      D
ATOM   4345  CG  LYS D 172     116.667  48.566   4.637  1.00 55.86      D
ATOM   4346  CD  LYS D 172     116.203  47.963   3.316  1.00 58.23      D
ATOM   4347  CE  LYS D 172     115.408  48.966   2.493  1.00 59.62      D
ATOM   4348  NZ  LYS D 172     114.946  48.368   1.211  1.00 59.53      D
ATOM   4349  C   LYS D 172     113.734  48.224   7.165  1.00 48.46      D
ATOM   4350  O   LYS D 172     112.564  48.026   6.833  1.00 48.43      D
ATOM   4351  N   PRO D 173     114.050  48.885   8.291  1.00 46.54      D
ATOM   4352  CD  PRO D 173     115.355  49.048   8.954  1.00 46.03      D
ATOM   4353  CA  PRO D 173     112.974  49.400   9.137  1.00 44.41      D
ATOM   4354  CB  PRO D 173     113.722  50.029  10.305  1.00 44.19      D
ATOM   4355  CG  PRO D 173     114.950  49.197  10.399  1.00 45.63      D
ATOM   4356  C   PRO D 173     112.180  50.430   8.348  1.00 43.26      D
ATOM   4357  O   PRO D 173     112.746  51.197   7.570  1.00 43.42      D
ATOM   4358  N   LEU D 174     110.869  50.434   8.532  1.00 41.53      D
ATOM   4359  CA  LEU D 174     110.023  51.381   7.829  1.00 39.96      D
ATOM   4360  CB  LEU D 174     108.675  50.730   7.523  1.00 40.30      D
ATOM   4361  CG  LEU D 174     107.900  51.223   6.303  1.00 40.55      D
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ATOM	4362	CD1	LEU	D	174	106.637	50.397	6.151	1.00	42.25	D
ATOM	4363	CD2	LEU	D	174	107.568	52.698	6.448	1.00	42.67	D
ATOM	4364	C	LEU	D	174	109.845	52.586	8.753	1.00	39.80	D
ATOM	4365	O	LEU	D	174	109.645	52.420	9.955	1.00	39.99	D
ATOM	4366	N	LEU	D	175	109.947	53.792	8.200	1.00	38.49	D
ATOM	4367	CA	LEU	D	175	109.787	55.016	8.983	1.00	38.04	D
ATOM	4368	CB	LEU	D	175	111.095	55.812	9.045	1.00	38.62	D
ATOM	4369	CG	LEU	D	175	112.127	55.442	10.113	1.00	38.70	D
ATOM	4370	CD1	LEU	D	175	111.518	55.648	11.489	1.00	39.24	D
ATOM	4371	CD2	LEU	D	175	112.577	54.001	9.936	1.00	40.07	D
ATOM	4372	C	LEU	D	175	108.712	55.892	8.372	1.00	37.31	D
ATOM	4373	O	LEU	D	175	108.885	56.432	7.282	1.00	38.54	D
ATOM	4374	N	LYS	D	176	107.599	56.033	9.076	1.00	35.14	D
ATOM	4375	CA	LYS	D	176	106.511	56.850	8.577	1.00	34.26	D
ATOM	4376	CB	LYS	D	176	105.175	56.124	8.768	1.00	33.88	D
ATOM	4377	CG	LYS	D	176	104.204	56.325	7.620	1.00	36.72	D
ATOM	4378	CD	LYS	D	176	104.829	55.887	6.295	1.00	37.68	D
ATOM	4379	CE	LYS	D	176	103.820	55.913	5.155	1.00	39.32	D
ATOM	4380	NZ	LYS	D	176	103.195	57.254	4.974	1.00	40.75	D
ATOM	4381	C	LYS	D	176	106.523	58.166	9.335	1.00	32.22	D
ATOM	4382	O	LYS	D	176	106.272	58.204	10.537	1.00	32.35	D
ATOM	4383	N	HIS	D	177	106.825	59.243	8.625	1.00	29.85	D
ATOM	4384	CA	HIS	D	177	106.897	60.563	9.229	1.00	29.87	D
ATOM	4385	CB	HIS	D	177	107.836	61.456	8.411	1.00	30.84	D
ATOM	4386	CG	HIS	D	177	108.014	62.830	8.979	1.00	31.41	D
ATOM	4387	CD2	HIS	D	177	107.607	64.042	8.529	1.00	32.01	D
ATOM	4388	ND1	HIS	D	177	108.695	63.067	10.155	1.00	32.16	D
ATOM	4389	CE1	HIS	D	177	108.704	64.365	10.402	1.00	30.49	D
ATOM	4390	NE2	HIS	D	177	108.051	64.979	9.431	1.00	31.08	D
ATOM	4391	C	HIS	D	177	105.532	61.228	9.332	1.00	29.28	D
ATOM	4392	O	HIS	D	177	104.709	61.121	8.429	1.00	27.97	D
ATOM	4393	N	TRP	D	178	105.295	61.922	10.439	1.00	29.05	D
ATOM	4394	CA	TRP	D	178	104.031	62.617	10.619	1.00	29.38	D
ATOM	4395	CB	TRP	D	178	103.518	62.464	12.048	1.00	26.73	D
ATOM	4396	CG	TRP	D	178	102.205	63.165	12.243	1.00	27.32	D
ATOM	4397	CD2	TRP	D	178	101.939	64.262	13.122	1.00	24.87	D
ATOM	4398	CE2	TRP	D	178	100.580	64.608	12.959	1.00	26.97	D
ATOM	4399	CE3	TRP	D	178	102.714	64.986	14.033	1.00	26.15	D
ATOM	4400	CD1	TRP	D	178	101.028	62.898	11.599	1.00	26.41	D
ATOM	4401	NE1	TRP	D	178	100.050	63.759	12.023	1.00	25.31	D
ATOM	4402	CZ2	TRP	D	178	99.980	65.649	13.675	1.00	25.60	D
ATOM	4403	CZ3	TRP	D	178	102.118	66.021	14.746	1.00	27.98	D
ATOM	4404	CH2	TRP	D	178	100.763	66.340	14.562	1.00	27.02	D
ATOM	4405	C	TRP	D	178	104.185	64.100	10.294	1.00	30.33	D
ATOM	4406	O	TRP	D	178	104.756	64.824	11.143	1.00	29.85	D
ATOM	4407	OXT	TRP	D	178	103.745	64.512	9.193	1.00	32.23	D
ATOM	4408	CB	SER	E	3	113.641	35.776	8.019	1.00	59.19	E
ATOM	4409	OG	SER	E	3	112.349	35.748	8.608	1.00	59.65	E
ATOM	4410	C	SER	E	3	114.352	33.977	9.601	1.00	57.92	E
ATOM	4411	O	SER	E	3	114.571	32.945	8.970	1.00	57.45	E
ATOM	4412	N	SER	E	3	116.055	35.305	8.352	1.00	59.31	E
ATOM	4413	CA	SER	E	3	114.719	35.342	9.020	1.00	58.85	E
ATOM	4414	N	PRO	E	4	113.799	33.958	10.824	1.00	56.65	E
ATOM	4415	CD	PRO	E	4	113.679	35.092	11.759	1.00	56.20	E
ATOM	4416	CA	PRO	E	4	113.403	32.704	11.472	1.00	55.50	E
ATOM	4417	CB	PRO	E	4	113.362	33.086	12.946	1.00	56.49	E
ATOM	4418	CG	PRO	E	4	112.870	34.493	12.893	1.00	56.56	E
ATOM	4419	C	PRO	E	4	112.046	32.217	10.957	1.00	53.68	E
ATOM	4420	O	PRO	E	4	111.168	33.024	10.648	1.00	54.06	E
ATOM	4421	N	GLU	E	5	111.875	30.903	10.855	1.00	51.52	E
ATOM	4422	CA	GLU	E	5	110.610	30.360	10.373	1.00	49.69	E
ATOM	4423	CB	GLU	E	5	110.831	29.007	9.676	1.00	53.42	E
ATOM	4424	CG	GLU	E	5	111.305	27.867	10.561	1.00	57.99	E
ATOM	4425	CD	GLU	E	5	111.671	26.626	9.758	1.00	60.86	E
ATOM	4426	OE1	GLU	E	5	110.857	26.196	8.908	1.00	62.41	E
ATOM	4427	OE2	GLU	E	5	112.772	26.077	9.979	1.00	63.42	E
ATOM	4428	C	GLU	E	5	109.619	30.231	11.525	1.00	45.48	E
ATOM	4429	O	GLU	E	5	109.919	29.644	12.564	1.00	46.07	E
ATOM	4430	N	ASP	E	6	108.436	30.800	11.337	1.00	40.87	E
ATOM	4431	CA	ASP	E	6	107.403	30.782	12.363	1.00	36.20	E
ATOM	4432	CB	ASP	E	6	106.911	32.214	12.617	1.00	35.53	E
ATOM	4433	CG	ASP	E	6	105.995	32.323	13.827	1.00	33.60	E
ATOM	4434	OD1	ASP	E	6	105.185	33.268	13.864	1.00	34.88	E
ATOM	4435	OD2	ASP	E	6	106.089	31.487	14.748	1.00	33.84	E

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ATOM   4436  C   ASP E   6     106.229  29.915  11.938  1.00 33.07      E
ATOM   4437  O   ASP E   6     105.882  29.867  10.762  1.00 32.95      E
ATOM   4438  N   PHE E   7     105.632  29.228  12.906  1.00 31.08      E
ATOM   4439  CA  PHE E   7     104.466  28.380  12.669  1.00 29.18      E
ATOM   4440  CB  PHE E   7     104.760  26.950  13.116  1.00 31.11      E
ATOM   4441  CG  PHE E   7     105.833  26.278  12.305  1.00 31.97      E
ATOM   4442  CD1 PHE E   7     105.544  25.745  11.053  1.00 31.67      E
ATOM   4443  CD2 PHE E   7     107.141  26.200  12.782  1.00 32.49      E
ATOM   4444  CE1 PHE E   7     106.546  25.141  10.282  1.00 33.41      E
ATOM   4445  CE2 PHE E   7     108.148  25.602  12.023  1.00 32.29      E
ATOM   4446  CZ  PHE E   7     107.850  25.071  10.770  1.00 31.62      E
ATOM   4447  C   PHE E   7     103.345  28.994  13.504  1.00 27.19      E
ATOM   4448  O   PHE E   7     103.483  29.151  14.715  1.00 25.77      E
ATOM   4449  N   VAL E   8     102.238  29.340  12.855  1.00 25.52      E
ATOM   4450  CA  VAL E   8     101.127  29.998  13.538  1.00 23.97      E
ATOM   4451  CB  VAL E   8     100.903  31.411  12.949  1.00 22.51      E
ATOM   4452  CG1 VAL E   8      99.789  32.130  13.703  1.00 20.58      E
ATOM   4453  CG2 VAL E   8     102.205  32.211  13.002  1.00 22.51      E
ATOM   4454  C   VAL E   8      99.785  29.275  13.510  1.00 24.21      E
ATOM   4455  O   VAL E   8      99.369  28.736  12.485  1.00 25.26      E
ATOM   4456  N   TYR E   9      99.096  29.288  14.643  1.00 23.98      E
ATOM   4457  CA  TYR E   9      97.786  28.663  14.724  1.00 23.53      E
ATOM   4458  CB  TYR E   9      97.796  27.505  15.718  1.00 24.07      E
ATOM   4459  CG  TYR E   9      96.562  26.640  15.627  1.00 25.27      E
ATOM   4460  CD1 TYR E   9      96.570  25.460  14.889  1.00 27.68      E
ATOM   4461  CE1 TYR E   9      95.435  24.658  14.801  1.00 27.67      E
ATOM   4462  CD2 TYR E   9      95.384  27.002  16.272  1.00 24.82      E
ATOM   4463  CE2 TYR E   9      94.245  26.211  16.191  1.00 25.29      E
ATOM   4464  CZ  TYR E   9      94.277  25.040  15.458  1.00 26.82      E
ATOM   4465  OH  TYR E   9      93.163  24.240  15.403  1.00 27.65      E
ATOM   4466  C   TYR E   9      96.775  29.707  15.179  1.00 23.14      E
ATOM   4467  O   TYR E   9      97.037  30.476  16.106  1.00 23.66      E
ATOM   4468  N   GLN E  10      95.622  29.739  14.523  1.00 21.64      E
ATOM   4469  CA  GLN E  10      94.582  30.686  14.892  1.00 21.14      E
ATOM   4470  CB  GLN E  10      94.438  31.793  13.843  1.00 20.35      E
ATOM   4471  CG  GLN E  10      95.677  32.598  13.529  1.00 19.58      E
ATOM   4472  CD  GLN E  10      95.410  33.655  12.461  1.00 18.44      E
ATOM   4473  OE1 GLN E  10      94.498  34.474  12.593  1.00 19.00      E
ATOM   4474  NE2 GLN E  10      96.206  33.640  11.400  1.00 18.89      E
ATOM   4475  C   GLN E  10      93.232  29.997  15.006  1.00 19.74      E
ATOM   4476  O   GLN E  10      92.904  29.113  14.223  1.00 21.71      E
ATOM   4477  N   PHE E  11      92.450  30.408  15.991  1.00 19.13      E
ATOM   4478  CA  PHE E  11      91.108  29.887  16.145  1.00 16.86      E
ATOM   4479  CB  PHE E  11      90.981  28.881  17.271  1.00 16.74      E
ATOM   4480  CG  PHE E  11      89.562  28.466  17.517  1.00 18.71      E
ATOM   4481  CD1 PHE E  11      88.910  27.615  16.626  1.00 21.10      E
ATOM   4482  CD2 PHE E  11      88.849  28.985  18.595  1.00 18.11      E
ATOM   4483  CE1 PHE E  11      87.559  27.290  16.807  1.00 22.40      E
ATOM   4484  CE2 PHE E  11      87.499  28.671  18.789  1.00 15.75      E
ATOM   4485  CZ  PHE E  11      86.854  27.826  17.898  1.00 21.25      E
ATOM   4486  C   PHE E  11      90.218  31.069  16.451  1.00 17.10      E
ATOM   4487  O   PHE E  11      90.461  31.819  17.406  1.00 13.97      E
ATOM   4488  N   LYS E  12      89.197  31.241  15.622  1.00 16.07      E
ATOM   4489  CA  LYS E  12      88.266  32.338  15.789  1.00 16.96      E
ATOM   4490  CB  LYS E  12      88.308  33.246  14.564  1.00 17.05      E
ATOM   4491  CG  LYS E  12      89.703  33.748  14.200  1.00 17.57      E
ATOM   4492  CD  LYS E  12      89.663  34.535  12.888  1.00 18.92      E
ATOM   4493  CE  LYS E  12      91.018  35.136  12.532  1.00 17.07      E
ATOM   4494  NZ  LYS E  12      90.920  36.063  11.362  1.00 14.26      E
ATOM   4495  C   LYS E  12      86.856  31.803  15.987  1.00 17.87      E
ATOM   4496  O   LYS E  12      86.354  31.039  15.165  1.00 16.82      E
ATOM   4497  N   GLY E  13      86.235  32.195  17.098  1.00 18.19      E
ATOM   4498  CA  GLY E  13      84.875  31.776  17.391  1.00 19.62      E
ATOM   4499  C   GLY E  13      83.991  32.939  17.010  1.00 19.93      E
ATOM   4500  O   GLY E  13      83.539  33.695  17.868  1.00 21.65      E
ATOM   4501  N   MET E  14      83.728  33.070  15.715  1.00 19.89      E
ATOM   4502  CA  MET E  14      82.947  34.184  15.197  1.00 20.54      E
ATOM   4503  CB  MET E  14      83.430  34.490  13.785  1.00 21.02      E
ATOM   4504  CG  MET E  14      84.937  34.657  13.751  1.00 23.04      E
ATOM   4505  SD  MET E  14      85.587  35.218  12.190  1.00 25.32      E
ATOM   4506  CE  MET E  14      85.218  36.938  12.284  1.00 20.32      E
ATOM   4507  C   MET E  14      81.429  34.078  15.219  1.00 20.83      E
ATOM   4508  O   MET E  14      80.859  32.999  15.101  1.00 20.77      E
ATOM   4509  N   CYS E  15      80.789  35.232  15.377  1.00 20.66      E
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ATOM   4510  CA  CYS E  15      79.332  35.336  15.418  1.00 22.09      E
ATOM   4511  C   CYS E  15      78.882  36.495  14.524  1.00 21.39      E
ATOM   4512  O   CYS E  15      79.393  37.614  14.644  1.00 19.38      E
ATOM   4513  CB  CYS E  15      78.841  35.616  16.848  1.00 22.10      E
ATOM   4514  SG  CYS E  15      78.970  34.281  18.094  1.00 26.75      E
ATOM   4515  N   TYR E  16      77.931  36.229  13.633  1.00 20.94      E
ATOM   4516  CA  TYR E  16      77.408  37.270  12.752  1.00 21.23      E
ATOM   4517  CB  TYR E  16      77.548  36.858  11.287  1.00 18.37      E
ATOM   4518  CG  TYR E  16      78.972  36.574  10.876  1.00 19.23      E
ATOM   4519  CD1 TYR E  16      79.576  35.354  11.178  1.00 18.71      E
ATOM   4520  CE1 TYR E  16      80.875  35.084  10.789  1.00 18.69      E
ATOM   4521  CD2 TYR E  16      79.715  37.524  10.178  1.00 20.25      E
ATOM   4522  CE2 TYR E  16      81.022  37.270   9.785  1.00 17.18      E
ATOM   4523  CZ  TYR E  16      81.595  36.047  10.088  1.00 21.03      E
ATOM   4524  OH  TYR E  16      82.872  35.775   9.662  1.00 22.99      E
ATOM   4525  C   TYR E  16      75.938  37.543  13.085  1.00 22.17      E
ATOM   4526  O   TYR E  16      75.132  36.612  13.199  1.00 21.71      E
ATOM   4527  N   PHE E  17      75.607  38.825  13.247  1.00 23.05      E
ATOM   4528  CA  PHE E  17      74.254  39.263  13.591  1.00 23.67      E
ATOM   4529  CB  PHE E  17      74.261  39.988  14.942  1.00 22.49      E
ATOM   4530  CG  PHE E  17      74.813  39.172  16.084  1.00 25.10      E
ATOM   4531  CD1 PHE E  17      74.007  38.270  16.772  1.00 24.22      E
ATOM   4532  CD2 PHE E  17      76.140  39.318  16.482  1.00 24.67      E
ATOM   4533  CE1 PHE E  17      74.516  37.526  17.844  1.00 24.68      E
ATOM   4534  CE2 PHE E  17      76.656  38.579  17.548  1.00 24.45      E
ATOM   4535  CZ  PHE E  17      75.843  37.684  18.228  1.00 24.13      E
ATOM   4536  C   PHE E  17      73.673  40.223  12.549  1.00 25.10      E
ATOM   4537  O   PHE E  17      74.390  41.034  11.971  1.00 24.65      E
ATOM   4538  N   THR E  18      72.365  40.122  12.333  1.00 27.15      E
ATOM   4539  CA  THR E  18      71.638  40.983  11.405  1.00 29.69      E
ATOM   4540  CB  THR E  18      71.609  40.397   9.978  1.00 29.46      E
ATOM   4541  OG1 THR E  18      72.949  40.252   9.500  1.00 32.31      E
ATOM   4542  CG2 THR E  18      70.863  41.321   9.032  1.00 28.09      E
ATOM   4543  C   THR E  18      70.217  41.080  11.950  1.00 31.56      E
ATOM   4544  O   THR E  18      69.638  40.071  12.355  1.00 32.09      E
ATOM   4545  N   ASN E  19      69.661  42.290  11.969  1.00 33.38      E
ATOM   4546  CA  ASN E  19      68.316  42.495  12.497  1.00 35.02      E
ATOM   4547  CB  ASN E  19      67.279  41.755  11.647  1.00 37.99      E
ATOM   4548  CG  ASN E  19      66.779  42.587  10.489  1.00 42.21      E
ATOM   4549  OD1 ASN E  19      66.271  43.695  10.687  1.00 47.70      E
ATOM   4550  ND2 ASN E  19      66.910  42.063   9.273  1.00 43.13      E
ATOM   4551  C   ASN E  19      68.264  41.977  13.924  1.00 34.10      E
ATOM   4552  O   ASN E  19      67.487  41.077  14.233  1.00 34.27      E
ATOM   4553  N   GLY E  20      69.088  42.553  14.795  1.00 33.50      E
ATOM   4554  CA  GLY E  20      69.120  42.106  16.175  1.00 33.61      E
ATOM   4555  C   GLY E  20      69.575  40.663  16.175  1.00 33.98      E
ATOM   4556  O   GLY E  20      70.580  40.343  15.541  1.00 34.56      E
ATOM   4557  N   THR E  21      68.847  39.789  16.866  1.00 34.08      E
ATOM   4558  CA  THR E  21      69.198  38.372  16.897  1.00 35.71      E
ATOM   4559  CB  THR E  21      69.193  37.809  18.335  1.00 37.69      E
ATOM   4560  OG1 THR E  21      67.907  38.026  18.930  1.00 39.78      E
ATOM   4561  CG2 THR E  21      70.268  38.480  19.174  1.00 38.05      E
ATOM   4562  C   THR E  21      68.251  37.517  16.050  1.00 35.19      E
ATOM   4563  O   THR E  21      68.092  36.324  16.303  1.00 36.08      E
ATOM   4564  N   GLU E  22      67.619  38.129  15.052  1.00 34.15      E
ATOM   4565  CA  GLU E  22      66.705  37.405  14.176  1.00 34.08      E
ATOM   4566  CB  GLU E  22      65.868  38.388  13.354  1.00 33.12      E
ATOM   4567  CG  GLU E  22      64.781  39.073  14.164  1.00 33.66      E
ATOM   4568  CD  GLU E  22      64.173  40.266  13.451  1.00 35.85      E
ATOM   4569  OE1 GLU E  22      63.865  40.151  12.244  1.00 35.10      E
ATOM   4570  OE2 GLU E  22      63.995  41.317  14.105  1.00 38.34      E
ATOM   4571  C   GLU E  22      67.523  36.503  13.265  1.00 33.80      E
ATOM   4572  O   GLU E  22      67.205  35.329  13.092  1.00 34.50      E
ATOM   4573  N   ARG E  23      68.574  37.065  12.678  1.00 33.59      E
ATOM   4574  CA  ARG E  23      69.467  36.298  11.818  1.00 33.75      E
ATOM   4575  CB  ARG E  23      69.703  36.996  10.470  1.00 36.33      E
ATOM   4576  CG  ARG E  23      68.599  36.815   9.434  1.00 42.06      E
ATOM   4577  CD  ARG E  23      67.342  37.577   9.813  1.00 47.83      E
ATOM   4578  NE  ARG E  23      66.408  37.696   8.695  1.00 51.02      E
ATOM   4579  CZ  ARG E  23      65.349  38.502   8.690  1.00 52.66      E
ATOM   4580  NH1 ARG E  23      65.087  39.263   9.747  1.00 50.82      E
ATOM   4581  NH2 ARG E  23      64.555  38.555   7.626  1.00 53.53      E
ATOM   4582  C   ARG E  23      70.788  36.177  12.560  1.00 30.98      E
ATOM   4583  O   ARG E  23      71.465  37.172  12.827  1.00 30.90      E
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ATOM	4584	N	VAL	E	24	71.149	34.955	12.909	1.00	28.33	E
ATOM	4585	CA	VAL	E	24	72.394	34.735	13.621	1.00	25.06	E
ATOM	4586	CB	VAL	E	24	72.148	34.500	15.129	1.00	22.98	E
ATOM	4587	CG1	VAL	E	24	73.456	34.106	15.817	1.00	21.05	E
ATOM	4588	CG2	VAL	E	24	71.582	35.762	15.763	1.00	21.04	E
ATOM	4589	C	VAL	E	24	73.144	33.550	13.049	1.00	23.08	E
ATOM	4590	O	VAL	E	24	72.600	32.458	12.914	1.00	24.17	E
ATOM	4591	N	ARG	E	25	74.398	33.778	12.694	1.00	23.02	E
ATOM	4592	CA	ARG	E	25	75.223	32.718	12.156	1.00	23.30	E
ATOM	4593	CB	ARG	E	25	75.511	32.930	10.659	1.00	24.06	E
ATOM	4594	CG	ARG	E	25	76.653	32.044	10.176	1.00	25.99	E
ATOM	4595	CD	ARG	E	25	76.470	31.478	8.774	1.00	28.29	E
ATOM	4596	NE	ARG	E	25	76.468	32.502	7.743	1.00	29.69	E
ATOM	4597	CZ	ARG	E	25	76.786	32.287	6.466	1.00	29.57	E
ATOM	4598	NH1	ARG	E	25	77.145	31.075	6.047	1.00	27.28	E
ATOM	4599	NH2	ARG	E	25	76.733	33.293	5.604	1.00	26.98	E
ATOM	4600	C	ARG	E	25	76.535	32.631	12.916	1.00	22.65	E
ATOM	4601	O	ARG	E	25	77.261	33.620	13.041	1.00	22.47	E
ATOM	4602	N	LEU	E	26	76.828	31.444	13.433	1.00	21.04	E
ATOM	4603	CA	LEU	E	26	78.069	31.227	14.152	1.00	21.94	E
ATOM	4604	CB	LEU	E	26	77.834	30.338	15.383	1.00	21.37	E
ATOM	4605	CG	LEU	E	26	79.054	29.778	16.128	1.00	22.89	E
ATOM	4606	CD1	LEU	E	26	78.723	29.567	17.602	1.00	25.16	E
ATOM	4607	CD2	LEU	E	26	79.483	28.466	15.493	1.00	23.51	E
ATOM	4608	C	LEU	E	26	79.032	30.552	13.193	1.00	21.17	E
ATOM	4609	O	LEU	E	26	78.637	29.674	12.432	1.00	21.77	E
ATOM	4610	N	VAL	E	27	80.285	30.983	13.201	1.00	19.92	E
ATOM	4611	CA	VAL	E	27	81.278	30.358	12.345	1.00	21.31	E
ATOM	4612	CB	VAL	E	27	81.530	31.166	11.039	1.00	20.44	E
ATOM	4613	CG1	VAL	E	27	82.524	30.420	10.156	1.00	21.63	E
ATOM	4614	CG2	VAL	E	27	80.221	31.366	10.275	1.00	20.48	E
ATOM	4615	C	VAL	E	27	82.581	30.231	13.112	1.00	21.74	E
ATOM	4616	O	VAL	E	27	83.189	31.228	13.487	1.00	24.11	E
ATOM	4617	N	SER	E	28	82.994	29.001	13.383	1.00	20.88	E
ATOM	4618	CA	SER	E	28	84.249	28.799	14.084	1.00	21.53	E
ATOM	4619	CB	SER	E	28	84.113	27.702	15.152	1.00	20.62	E
ATOM	4620	OG	SER	E	28	83.693	26.475	14.598	1.00	29.22	E
ATOM	4621	C	SER	E	28	85.274	28.433	13.006	1.00	21.41	E
ATOM	4622	O	SER	E	28	84.992	27.631	12.105	1.00	19.11	E
ATOM	4623	N	ARG	E	29	86.450	29.051	13.090	1.00	18.23	E
ATOM	4624	CA	ARG	E	29	87.496	28.838	12.105	1.00	18.45	E
ATOM	4625	CB	ARG	E	29	87.701	30.124	11.287	1.00	16.91	E
ATOM	4626	CG	ARG	E	29	86.433	30.817	10.810	1.00	17.70	E
ATOM	4627	CD	ARG	E	29	86.791	32.117	10.109	1.00	18.98	E
ATOM	4628	NE	ARG	E	29	85.631	32.902	9.705	1.00	20.82	E
ATOM	4629	CZ	ARG	E	29	84.939	32.704	8.586	1.00	22.76	E
ATOM	4630	NH1	ARG	E	29	85.285	31.739	7.743	1.00	21.05	E
ATOM	4631	NH2	ARG	E	29	83.904	33.482	8.309	1.00	20.13	E
ATOM	4632	C	ARG	E	29	88.842	28.435	12.710	1.00	18.44	E
ATOM	4633	O	ARG	E	29	89.401	29.171	13.520	1.00	19.35	E
ATOM	4634	N	SER	E	30	89.351	27.269	12.315	1.00	18.98	E
ATOM	4635	CA	SER	E	30	90.657	26.788	12.774	1.00	21.70	E
ATOM	4636	CB	SER	E	30	90.619	25.284	13.028	1.00	22.10	E
ATOM	4637	OG	SER	E	30	89.718	24.969	14.072	1.00	27.24	E
ATOM	4638	C	SER	E	30	91.637	27.119	11.639	1.00	23.03	E
ATOM	4639	O	SER	E	30	91.509	26.604	10.528	1.00	23.56	E
ATOM	4640	N	ILE	E	31	92.611	27.978	11.927	1.00	23.05	E
ATOM	4641	CA	ILE	E	31	93.560	28.439	10.923	1.00	22.24	E
ATOM	4642	CB	ILE	E	31	93.563	29.997	10.856	1.00	22.84	E
ATOM	4643	CG2	ILE	E	31	94.163	30.470	9.545	1.00	19.19	E
ATOM	4644	CG1	ILE	E	31	92.143	30.546	11.043	1.00	24.76	E
ATOM	4645	CD1	ILE	E	31	91.144	30.032	10.047	1.00	29.25	E
ATOM	4646	C	ILE	E	31	95.013	28.014	11.134	1.00	24.53	E
ATOM	4647	O	ILE	E	31	95.566	28.187	12.225	1.00	22.94	E
ATOM	4648	N	TYR	E	32	95.625	27.468	10.081	1.00	24.41	E
ATOM	4649	CA	TYR	E	32	97.030	27.089	10.120	1.00	24.27	E
ATOM	4650	CB	TYR	E	32	97.277	25.755	9.417	1.00	26.61	E
ATOM	4651	CG	TYR	E	32	98.733	25.338	9.444	1.00	29.24	E
ATOM	4652	CD1	TYR	E	32	99.423	25.231	10.649	1.00	30.69	E
ATOM	4653	CE1	TYR	E	32	100.770	24.880	10.683	1.00	32.83	E
ATOM	4654	CD2	TYR	E	32	99.426	25.078	8.267	1.00	31.46	E
ATOM	4655	CE2	TYR	E	32	100.774	24.721	8.288	1.00	32.58	E
ATOM	4656	CZ	TYR	E	32	101.438	24.625	9.497	1.00	32.80	E
ATOM	4657	OH	TYR	E	32	102.768	24.280	9.522	1.00	33.44	E

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ATOM   4658  C   TYR E  32      97.700  28.225   9.353  1.00 24.83      E
ATOM   4659  O   TYR E  32      97.444  28.415   8.164  1.00 25.49      E
ATOM   4660  N   ASN E  33      98.543  28.985  10.045  1.00 24.28      E
ATOM   4661  CA  ASN E  33      99.202  30.146   9.461  1.00 24.25      E
ATOM   4662  CB  ASN E  33     100.144  29.740   8.324  1.00 23.93      E
ATOM   4663  CG  ASN E  33     101.379  29.014   8.834  1.00 25.26      E
ATOM   4664  OD1 ASN E  33     102.003  29.439   9.808  1.00 26.40      E
ATOM   4665  ND2 ASN E  33     101.737  27.918   8.181  1.00 25.47      E
ATOM   4666  C   ASN E  33      98.114  31.099   8.980  1.00 24.88      E
ATOM   4667  O   ASN E  33      97.494  31.780   9.799  1.00 25.88      E
ATOM   4668  N   ARG E  34      97.864  31.163   7.677  1.00 24.52      E
ATOM   4669  CA  ARG E  34      96.815  32.055   7.194  1.00 26.32      E
ATOM   4670  CB  ARG E  34      97.385  33.175   6.317  1.00 26.61      E
ATOM   4671  CG  ARG E  34      97.999  34.346   7.072  1.00 26.37      E
ATOM   4672  CD  ARG E  34      97.776  35.646   6.304  1.00 28.18      E
ATOM   4673  NE  ARG E  34      97.886  35.429   4.865  1.00 31.86      E
ATOM   4674  CZ  ARG E  34      97.607  36.332   3.931  1.00 33.42      E
ATOM   4675  NH1 ARG E  34      97.197  37.550   4.265  1.00 35.40      E
ATOM   4676  NH2 ARG E  34      97.722  36.003   2.653  1.00 35.29      E
ATOM   4677  C   ARG E  34      95.728  31.333   6.417  1.00 26.98      E
ATOM   4678  O   ARG E  34      94.896  31.968   5.763  1.00 28.88      E
ATOM   4679  N   GLU E  35      95.719  30.010   6.481  1.00 26.13      E
ATOM   4680  CA  GLU E  35      94.698  29.279   5.759  1.00 27.02      E
ATOM   4681  CB  GLU E  35      95.350  28.359   4.720  1.00 31.96      E
ATOM   4682  CG  GLU E  35      96.284  27.301   5.278  1.00 38.52      E
ATOM   4683  CD  GLU E  35      97.116  26.633   4.192  1.00 42.24      E
ATOM   4684  OE1 GLU E  35      98.180  27.187   3.832  1.00 44.86      E
ATOM   4685  OE2 GLU E  35      96.699  25.565   3.690  1.00 43.70      E
ATOM   4686  C   GLU E  35      93.754  28.498   6.671  1.00 25.31      E
ATOM   4687  O   GLU E  35      94.175  27.709   7.522  1.00 22.18      E
ATOM   4688  N   GLU E  36      92.464  28.756   6.498  1.00 24.46      E
ATOM   4689  CA  GLU E  36      91.438  28.085   7.272  1.00 24.13      E
ATOM   4690  CB  GLU E  36      90.085  28.731   7.001  1.00 24.37      E
ATOM   4691  CG  GLU E  36      88.975  28.295   7.928  1.00 25.26      E
ATOM   4692  CD  GLU E  36      87.669  28.991   7.604  1.00 26.01      E
ATOM   4693  OE1 GLU E  36      87.672  29.847   6.694  1.00 27.25      E
ATOM   4694  OE2 GLU E  36      86.646  28.689   8.253  1.00 27.12      E
ATOM   4695  C   GLU E  36      91.413  26.630   6.826  1.00 23.40      E
ATOM   4696  O   GLU E  36      91.252  26.347   5.645  1.00 23.72      E
ATOM   4697  N   ILE E  37      91.576  25.707   7.767  1.00 23.97      E
ATOM   4698  CA  ILE E  37      91.579  24.294   7.419  1.00 24.33      E
ATOM   4699  CB  ILE E  37      92.818  23.578   8.019  1.00 24.98      E
ATOM   4700  CG2 ILE E  37      94.096  24.255   7.532  1.00 24.26      E
ATOM   4701  CG1 ILE E  37      92.771  23.616   9.544  1.00 25.10      E
ATOM   4702  CD1 ILE E  37      93.822  22.742  10.204  1.00 26.49      E
ATOM   4703  C   ILE E  37      90.301  23.555   7.836  1.00 23.49      E
ATOM   4704  O   ILE E  37      89.871  22.627   7.162  1.00 23.62      E
ATOM   4705  N   VAL E  38      89.690  23.975   8.936  1.00 25.16      E
ATOM   4706  CA  VAL E  38      88.465  23.342   9.415  1.00 25.85      E
ATOM   4707  CB  VAL E  38      88.715  22.489  10.667  1.00 26.44      E
ATOM   4708  CG1 VAL E  38      87.516  21.610  10.932  1.00 27.10      E
ATOM   4709  CG2 VAL E  38      89.980  21.671  10.495  1.00 29.59      E
ATOM   4710  C   VAL E  38      87.481  24.428   9.792  1.00 24.45      E
ATOM   4711  O   VAL E  38      87.885  25.471  10.288  1.00 24.36      E
ATOM   4712  N   ARG E  39      86.193  24.168   9.594  1.00 24.90      E
ATOM   4713  CA  ARG E  39      85.175  25.161   9.904  1.00 23.66      E
ATOM   4714  CB  ARG E  39      84.975  26.055   8.678  1.00 25.55      E
ATOM   4715  CG  ARG E  39      83.956  27.174   8.857  1.00 29.11      E
ATOM   4716  CD  ARG E  39      83.514  27.755   7.515  1.00 29.37      E
ATOM   4717  NE  ARG E  39      84.626  28.289   6.739  1.00 29.70      E
ATOM   4718  CZ  ARG E  39      84.505  28.798   5.516  1.00 31.37      E
ATOM   4719  NH1 ARG E  39      83.314  28.842   4.930  1.00 33.54      E
ATOM   4720  NH2 ARG E  39      85.572  29.266   4.879  1.00 27.78      E
ATOM   4721  C   ARG E  39      83.813  24.594  10.328  1.00 23.51      E
ATOM   4722  O   ARG E  39      83.385  23.539   9.853  1.00 23.83      E
ATOM   4723  N   PHE E  40      83.147  25.295  11.242  1.00 22.04      E
ATOM   4724  CA  PHE E  40      81.799  24.918  11.655  1.00 21.92      E
ATOM   4725  CB  PHE E  40      81.682  24.551  13.137  1.00 21.36      E
ATOM   4726  CG  PHE E  40      80.296  24.088  13.514  1.00 17.04      E
ATOM   4727  CD1 PHE E  40      79.944  22.748  13.407  1.00 19.76      E
ATOM   4728  CD2 PHE E  40      79.315  25.004  13.875  1.00 16.82      E
ATOM   4729  CE1 PHE E  40      78.628  22.324  13.649  1.00 17.84      E
ATOM   4730  CE2 PHE E  40      78.001  24.594  14.119  1.00 18.10      E
ATOM   4731  CZ  PHE E  40      77.661  23.248  14.003  1.00 16.61      E
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ATOM   4732  C   PHE E  40      80.938  26.148  11.395  1.00 21.77      E
ATOM   4733  O   PHE E  40      81.064  27.167  12.071  1.00 20.81      E
ATOM   4734  N   ASP E  41      80.067  26.033  10.404  1.00 21.82      E
ATOM   4735  CA  ASP E  41      79.181  27.110   9.995  1.00 21.76      E
ATOM   4736  CB  ASP E  41      79.190  27.182   8.470  1.00 22.62      E
ATOM   4737  CG  ASP E  41      78.492  28.400   7.929  1.00 23.09      E
ATOM   4738  OD1 ASP E  41      77.507  28.864   8.546  1.00 22.57      E
ATOM   4739  OD2 ASP E  41      78.929  28.881   6.861  1.00 25.40      E
ATOM   4740  C   ASP E  41      77.801  26.713  10.493  1.00 21.43      E
ATOM   4741  O   ASP E  41      77.277  25.672  10.085  1.00 22.83      E
ATOM   4742  N   SER E  42      77.210  27.520  11.369  1.00 19.04      E
ATOM   4743  CA  SER E  42      75.896  27.173  11.895  1.00 20.39      E
ATOM   4744  CB  SER E  42      75.399  28.220  12.907  1.00 19.13      E
ATOM   4745  OG  SER E  42      75.271  29.505  12.323  1.00 24.30      E
ATOM   4746  C   SER E  42      74.891  27.000  10.762  1.00 20.23      E
ATOM   4747  O   SER E  42      73.916  26.267  10.910  1.00 18.97      E
ATOM   4748  N   ASP E  43      75.145  27.660   9.631  1.00 21.77      E
ATOM   4749  CA  ASP E  43      74.261  27.556   8.470  1.00 24.99      E
ATOM   4750  CB  ASP E  43      74.561  28.651   7.439  1.00 26.10      E
ATOM   4751  CG  ASP E  43      73.819  29.947   7.727  1.00 28.71      E
ATOM   4752  OD1 ASP E  43      73.078  30.013   8.737  1.00 28.83      E
ATOM   4753  OD2 ASP E  43      73.976  30.902   6.939  1.00 31.35      E
ATOM   4754  C   ASP E  43      74.378  26.193   7.809  1.00 25.68      E
ATOM   4755  O   ASP E  43      73.424  25.727   7.190  1.00 28.27      E
ATOM   4756  N   VAL E  44      75.544  25.558   7.937  1.00 25.47      E
ATOM   4757  CA  VAL E  44      75.764  24.229   7.362  1.00 23.51      E
ATOM   4758  CB  VAL E  44      77.251  24.007   6.964  1.00 24.39      E
ATOM   4759  CG1 VAL E  44      77.456  22.579   6.491  1.00 19.52      E
ATOM   4760  CG2 VAL E  44      77.655  24.984   5.867  1.00 23.79      E
ATOM   4761  C   VAL E  44      75.356  23.154   8.373  1.00 23.25      E
ATOM   4762  O   VAL E  44      74.774  22.136   8.005  1.00 22.01      E
ATOM   4763  N   GLY E  45      75.683  23.370   9.644  1.00 22.52      E
ATOM   4764  CA  GLY E  45      75.292  22.411  10.664  1.00 21.82      E
ATOM   4765  C   GLY E  45      76.275  21.311  11.001  1.00 22.07      E
ATOM   4766  O   GLY E  45      75.982  20.442  11.818  1.00 22.49      E
ATOM   4767  N   GLU E  46      77.439  21.317  10.373  1.00 22.18      E
ATOM   4768  CA  GLU E  46      78.421  20.295  10.691  1.00 23.77      E
ATOM   4769  CB  GLU E  46      78.147  19.017   9.891  1.00 26.29      E
ATOM   4770  CG  GLU E  46      78.455  19.112   8.411  1.00 28.23      E
ATOM   4771  CD  GLU E  46      78.214  17.795   7.677  1.00 32.67      E
ATOM   4772  OE1 GLU E  46      78.575  17.706   6.482  1.00 33.19      E
ATOM   4773  OE2 GLU E  46      77.661  16.855   8.290  1.00 33.19      E
ATOM   4774  C   GLU E  46      79.807  20.839  10.383  1.00 23.15      E
ATOM   4775  O   GLU E  46      79.943  21.880   9.747  1.00 23.06      E
ATOM   4776  N   PHE E  47      80.835  20.153  10.857  1.00 21.79      E
ATOM   4777  CA  PHE E  47      82.192  20.595  10.599  1.00 22.22      E
ATOM   4778  CB  PHE E  47      83.175  19.864  11.515  1.00 22.30      E
ATOM   4779  CG  PHE E  47      83.058  20.249  12.968  1.00 22.20      E
ATOM   4780  CD1 PHE E  47      83.867  21.246  13.508  1.00 19.80      E
ATOM   4781  CD2 PHE E  47      82.151  19.598  13.802  1.00 23.06      E
ATOM   4782  CE1 PHE E  47      83.781  21.585  14.858  1.00 18.93      E
ATOM   4783  CE2 PHE E  47      82.055  19.931  15.157  1.00 22.63      E
ATOM   4784  CZ  PHE E  47      82.872  20.925  15.684  1.00 20.81      E
ATOM   4785  C   PHE E  47      82.513  20.278   9.147  1.00 24.14      E
ATOM   4786  O   PHE E  47      82.064  19.258   8.609  1.00 23.25      E
ATOM   4787  N   ARG E  48      83.272  21.164   8.511  1.00 22.66      E
ATOM   4788  CA  ARG E  48      83.672  20.966   7.131  1.00 23.86      E
ATOM   4789  CB  ARG E  48      82.801  21.795   6.181  1.00 23.48      E
ATOM   4790  CG  ARG E  48      81.339  21.375   6.091  1.00 25.01      E
ATOM   4791  CD  ARG E  48      81.155  20.061   5.348  1.00 25.08      E
ATOM   4792  NE  ARG E  48      79.747  19.811   5.044  1.00 27.17      E
ATOM   4793  CZ  ARG E  48      79.038  20.515   4.164  1.00 29.38      E
ATOM   4794  NH1 ARG E  48      79.604  21.513   3.498  1.00 31.36      E
ATOM   4795  NH2 ARG E  48      77.763  20.226   3.946  1.00 30.50      E
ATOM   4796  C   ARG E  48      85.119  21.395   6.972  1.00 24.13      E
ATOM   4797  O   ARG E  48      85.507  22.480   7.416  1.00 25.58      E
ATOM   4798  N   ALA E  49      85.924  20.537   6.360  1.00 22.26      E
ATOM   4799  CA  ALA E  49      87.316  20.875   6.122  1.00 23.11      E
ATOM   4800  CB  ALA E  49      88.102  19.630   5.711  1.00 22.46      E
ATOM   4801  C   ALA E  49      87.290  21.875   4.980  1.00 22.04      E
ATOM   4802  O   ALA E  49      86.507  21.722   4.048  1.00 23.16      E
ATOM   4803  N   VAL E  50      88.108  22.916   5.050  1.00 23.56      E
ATOM   4804  CA  VAL E  50      88.135  23.875   3.953  1.00 23.79      E
ATOM   4805  CB  VAL E  50      88.059  25.360   4.478  1.00 24.14      E
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ATOM   4806  CG1 VAL E  50      88.341  25.408   5.959  1.00 24.71      E
ATOM   4807  CG2 VAL E  50      89.010  26.268   3.704  1.00 22.47      E
ATOM   4808  C   VAL E  50      89.374  23.578   3.098  1.00 23.50      E
ATOM   4809  O   VAL E  50      89.485  24.041   1.963  1.00 24.92      E
ATOM   4810  N   THR E  51      90.281  22.770   3.650  1.00 24.49      E
ATOM   4811  CA  THR E  51      91.492  22.317   2.951  1.00 25.50      E
ATOM   4812  CB  THR E  51      92.742  23.198   3.234  1.00 25.69      E
ATOM   4813  OG1 THR E  51      93.171  23.007   4.586  1.00 27.89      E
ATOM   4814  CG2 THR E  51      92.443  24.670   2.985  1.00 23.29      E
ATOM   4815  C   THR E  51      91.817  20.895   3.420  1.00 26.59      E
ATOM   4816  O   THR E  51      91.387  20.477   4.496  1.00 27.35      E
ATOM   4817  N   LEU E  52      92.576  20.154   2.617  1.00 28.03      E
ATOM   4818  CA  LEU E  52      92.949  18.783   2.956  1.00 28.49      E
ATOM   4819  CB  LEU E  52      93.995  18.259   1.969  1.00 30.33      E
ATOM   4820  CG  LEU E  52      93.536  17.892   0.556  1.00 34.17      E
ATOM   4821  CD1 LEU E  52      94.749  17.628  -0.334  1.00 34.41      E
ATOM   4822  CD2 LEU E  52      92.644  16.668   0.620  1.00 34.30      E
ATOM   4823  C   LEU E  52      93.494  18.645   4.374  1.00 28.20      E
ATOM   4824  O   LEU E  52      93.304  17.624   5.027  1.00 29.17      E
ATOM   4825  N   LEU E  53      94.179  19.677   4.839  1.00 28.30      E
ATOM   4826  CA  LEU E  53      94.766  19.682   6.171  1.00 28.75      E
ATOM   4827  CB  LEU E  53      95.490  21.015   6.387  1.00 30.37      E
ATOM   4828  CG  LEU E  53      96.939  21.010   6.882  1.00 32.74      E
ATOM   4829  CD1 LEU E  53      97.777  20.085   6.008  1.00 31.60      E
ATOM   4830  CD2 LEU E  53      97.498  22.444   6.854  1.00 30.06      E
ATOM   4831  C   LEU E  53      93.727  19.464   7.278  1.00 27.82      E
ATOM   4832  O   LEU E  53      94.027  18.858   8.312  1.00 25.47      E
ATOM   4833  N   GLY E  54      92.508  19.957   7.059  1.00 27.39      E
ATOM   4834  CA  GLY E  54      91.466  19.813   8.062  1.00 26.92      E
ATOM   4835  C   GLY E  54      90.569  18.589   7.949  1.00 28.33      E
ATOM   4836  O   GLY E  54      89.725  18.348   8.813  1.00 28.02      E
ATOM   4837  N   LEU E  55      90.755  17.801   6.898  1.00 29.28      E
ATOM   4838  CA  LEU E  55      89.930  16.620   6.675  1.00 31.43      E
ATOM   4839  CB  LEU E  55      90.410  15.885   5.419  1.00 32.39      E
ATOM   4840  CG  LEU E  55      89.426  14.934   4.731  1.00 35.68      E
ATOM   4841  CD1 LEU E  55      88.086  15.627   4.504  1.00 34.41      E
ATOM   4842  CD2 LEU E  55      90.018  14.473   3.406  1.00 35.99      E
ATOM   4843  C   LEU E  55      89.865  15.659   7.867  1.00 32.09      E
ATOM   4844  O   LEU E  55      88.778  15.294   8.312  1.00 32.58      E
ATOM   4845  N   PRO E  56      91.023  15.235   8.402  1.00 31.67      E
ATOM   4846  CD  PRO E  56      92.411  15.520   8.000  1.00 31.37      E
ATOM   4847  CA  PRO E  56      90.986  14.316   9.546  1.00 31.17      E
ATOM   4848  CB  PRO E  56      92.459  14.163   9.919  1.00 30.50      E
ATOM   4849  CG  PRO E  56      93.161  14.352   8.611  1.00 31.19      E
ATOM   4850  C   PRO E  56      90.158  14.865  10.708  1.00 31.43      E
ATOM   4851  O   PRO E  56      89.250  14.195  11.205  1.00 32.17      E
ATOM   4852  N   ALA E  57      90.473  16.086  11.138  1.00 29.94      E
ATOM   4853  CA  ALA E  57      89.748  16.709  12.244  1.00 28.45      E
ATOM   4854  CB  ALA E  57      90.314  18.098  12.532  1.00 27.09      E
ATOM   4855  C   ALA E  57      88.249  16.807  11.960  1.00 27.57      E
ATOM   4856  O   ALA E  57      87.436  16.466  12.812  1.00 26.57      E
ATOM   4857  N   ALA E  58      87.899  17.270  10.761  1.00 27.40      E
ATOM   4858  CA  ALA E  58      86.505  17.422  10.349  1.00 28.85      E
ATOM   4859  CB  ALA E  58      86.439  18.007   8.939  1.00 27.80      E
ATOM   4860  C   ALA E  58      85.726  16.110  10.406  1.00 30.37      E
ATOM   4861  O   ALA E  58      84.624  16.058  10.954  1.00 29.58      E
ATOM   4862  N   GLU E  59      86.292  15.052   9.837  1.00 32.24      E
ATOM   4863  CA  GLU E  59      85.632  13.750   9.845  1.00 35.22      E
ATOM   4864  CB  GLU E  59      86.441  12.724   9.049  1.00 36.81      E
ATOM   4865  CG  GLU E  59      86.392  12.917   7.549  1.00 40.89      E
ATOM   4866  CD  GLU E  59      87.057  11.775   6.805  1.00 44.28      E
ATOM   4867  OE1 GLU E  59      88.291  11.597   6.955  1.00 45.76      E
ATOM   4868  OE2 GLU E  59      86.342  11.052   6.075  1.00 45.12      E
ATOM   4869  C   GLU E  59      85.441  13.231  11.260  1.00 34.08      E
ATOM   4870  O   GLU E  59      84.384  12.697  11.596  1.00 34.48      E
ATOM   4871  N   TYR E  60      86.466  13.387  12.090  1.00 33.21      E
ATOM   4872  CA  TYR E  60      86.390  12.919  13.463  1.00 32.36      E
ATOM   4873  CB  TYR E  60      87.724  13.101  14.177  1.00 33.78      E
ATOM   4874  CG  TYR E  60      87.657  12.617  15.594  1.00 35.68      E
ATOM   4875  CD1 TYR E  60      87.543  11.259  15.872  1.00 37.48      E
ATOM   4876  CE1 TYR E  60      87.394  10.802  17.173  1.00 41.14      E
ATOM   4877  CD2 TYR E  60      87.628  13.514  16.655  1.00 37.26      E
ATOM   4878  CE2 TYR E  60      87.478  13.073  17.965  1.00 40.26      E
ATOM   4879  CZ  TYR E  60      87.360  11.714  18.218  1.00 41.88      E
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ATOM   4880  OH  TYR E  60      87.198  11.262  19.508  1.00 44.51      E
ATOM   4881  C   TYR E  60      85.312  13.623  14.275  1.00 32.30      E
ATOM   4882  O   TYR E  60      84.430  12.976  14.839  1.00 30.56      E
ATOM   4883  N   TRP E  61      85.391  14.950  14.347  1.00 31.42      E
ATOM   4884  CA  TRP E  61      84.412  15.715  15.112  1.00 31.35      E
ATOM   4885  CB  TRP E  61      84.744  17.219  15.071  1.00 32.78      E
ATOM   4886  CG  TRP E  61      86.051  17.584  15.748  1.00 35.14      E
ATOM   4887  CD2 TRP E  61      86.909  18.687  15.425  1.00 37.07      E
ATOM   4888  CE2 TRP E  61      87.994  18.655  16.331  1.00 37.15      E
ATOM   4889  CE3 TRP E  61      86.864  19.706  14.458  1.00 39.50      E
ATOM   4890  CD1 TRP E  61      86.635  16.947  16.809  1.00 35.82      E
ATOM   4891  NE1 TRP E  61      87.800  17.582  17.163  1.00 35.66      E
ATOM   4892  CZ2 TRP E  61      89.034  19.602  16.300  1.00 38.95      E
ATOM   4893  CZ3 TRP E  61      87.902  20.656  14.427  1.00 41.16      E
ATOM   4894  CH2 TRP E  61      88.971  20.591  15.346  1.00 40.81      E
ATOM   4895  C   TRP E  61      82.968  15.472  14.653  1.00 29.29      E
ATOM   4896  O   TRP E  61      82.045  15.563  15.458  1.00 29.20      E
ATOM   4897  N   ASN E  62      82.772  15.162  13.373  1.00 27.86      E
ATOM   4898  CA  ASN E  62      81.428  14.902  12.853  1.00 29.09      E
ATOM   4899  CB  ASN E  62      81.379  15.051  11.331  1.00 29.42      E
ATOM   4900  CG  ASN E  62      81.241  16.492  10.893  1.00 31.22      E
ATOM   4901  OD1 ASN E  62      80.563  17.288  11.545  1.00 29.56      E
ATOM   4902  ND2 ASN E  62      81.870  16.834   9.772  1.00 31.73      E
ATOM   4903  C   ASN E  62      80.906  13.519  13.220  1.00 28.26      E
ATOM   4904  O   ASN E  62      79.716  13.242  13.086  1.00 27.48      E
ATOM   4905  N   SER E  63      81.795  12.647  13.672  1.00 27.47      E
ATOM   4906  CA  SER E  63      81.381  11.311  14.056  1.00 29.39      E
ATOM   4907  CB  SER E  63      82.511  10.310  13.803  1.00 28.56      E
ATOM   4908  OG  SER E  63      83.607  10.545  14.671  1.00 32.72      E
ATOM   4909  C   SER E  63      80.987  11.310  15.534  1.00 30.11      E
ATOM   4910  O   SER E  63      80.515  10.297  16.055  1.00 31.52      E
ATOM   4911  N   GLN E  64      81.173  12.453  16.196  1.00 28.86      E
ATOM   4912  CA  GLN E  64      80.834  12.604  17.612  1.00 28.28      E
ATOM   4913  CB  GLN E  64      81.929  13.379  18.350  1.00 29.50      E
ATOM   4914  CG  GLN E  64      83.330  12.787  18.266  1.00 29.72      E
ATOM   4915  CD  GLN E  64      83.418  11.412  18.888  1.00 32.69      E
ATOM   4916  OE1 GLN E  64      83.055  10.405  18.267  1.00 35.22      E
ATOM   4917  NE2 GLN E  64      83.887  11.358  20.128  1.00 31.92      E
ATOM   4918  C   GLN E  64      79.522  13.366  17.783  1.00 28.42      E
ATOM   4919  O   GLN E  64      79.525  14.599  17.800  1.00 27.68      E
ATOM   4920  N   LYS E  65      78.410  12.648  17.926  1.00 27.17      E
ATOM   4921  CA  LYS E  65      77.111  13.300  18.097  1.00 29.82      E
ATOM   4922  CB  LYS E  65      75.994  12.258  18.253  1.00 31.43      E
ATOM   4923  CG  LYS E  65      75.479  11.692  16.936  1.00 37.61      E
ATOM   4924  CD  LYS E  65      74.801  12.766  16.072  1.00 41.12      E
ATOM   4925  CE  LYS E  65      73.489  13.267  16.696  1.00 44.25      E
ATOM   4926  NZ  LYS E  65      72.832  14.322  15.861  1.00 44.10      E
ATOM   4927  C   LYS E  65      77.067  14.273  19.278  1.00 28.07      E
ATOM   4928  O   LYS E  65      76.406  15.308  19.211  1.00 27.46      E
ATOM   4929  N   ASP E  66      77.758  13.938  20.361  1.00 27.40      E
ATOM   4930  CA  ASP E  66      77.783  14.809  21.532  1.00 26.85      E
ATOM   4931  CB  ASP E  66      78.566  14.142  22.670  1.00 26.10      E
ATOM   4932  CG  ASP E  66      79.899  13.576  22.212  1.00 29.25      E
ATOM   4933  OD1 ASP E  66      79.915  12.836  21.205  1.00 28.95      E
ATOM   4934  OD2 ASP E  66      80.929  13.858  22.864  1.00 31.03      E
ATOM   4935  C   ASP E  66      78.390  16.174  21.193  1.00 26.21      E
ATOM   4936  O   ASP E  66      77.844  17.215  21.559  1.00 26.58      E
ATOM   4937  N   ILE E  67      79.510  16.170  20.478  1.00 26.25      E
ATOM   4938  CA  ILE E  67      80.164  17.414  20.100  1.00 25.76      E
ATOM   4939  CB  ILE E  67      81.551  17.153  19.477  1.00 27.31      E
ATOM   4940  CG2 ILE E  67      82.261  18.467  19.210  1.00 25.90      E
ATOM   4941  CG1 ILE E  67      82.396  16.304  20.429  1.00 28.85      E
ATOM   4942  CD1 ILE E  67      82.494  16.871  21.844  1.00 32.35      E
ATOM   4943  C   ILE E  67      79.307  18.189  19.108  1.00 25.95      E
ATOM   4944  O   ILE E  67      79.125  19.392  19.255  1.00 26.97      E
ATOM   4945  N   LEU E  68      78.775  17.504  18.100  1.00 26.05      E
ATOM   4946  CA  LEU E  68      77.927  18.172  17.113  1.00 26.36      E
ATOM   4947  CB  LEU E  68      77.382  17.169  16.094  1.00 26.91      E
ATOM   4948  CG  LEU E  68      78.154  16.987  14.790  1.00 27.01      E
ATOM   4949  CD1 LEU E  68      77.389  16.002  13.913  1.00 26.26      E
ATOM   4950  CD2 LEU E  68      78.311  18.342  14.076  1.00 24.04      E
ATOM   4951  C   LEU E  68      76.760  18.870  17.792  1.00 26.03      E
ATOM   4952  O   LEU E  68      76.433  20.011  17.465  1.00 25.76      E
ATOM   4953  N   GLU E  69      76.134  18.175  18.737  1.00 27.50      E
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ATOM   4954  CA  GLU E  69      75.000  18.726  19.471  1.00 30.38      E
ATOM   4955  CB  GLU E  69      74.481  17.720  20.508  1.00 34.06      E
ATOM   4956  CG  GLU E  69      73.426  16.742  19.989  1.00 40.55      E
ATOM   4957  CD  GLU E  69      72.211  17.444  19.392  1.00 44.43      E
ATOM   4958  OE1 GLU E  69      71.802  18.505  19.922  1.00 43.73      E
ATOM   4959  OE2 GLU E  69      71.656  16.926  18.397  1.00 48.15      E
ATOM   4960  C   GLU E  69      75.335  20.034  20.178  1.00 29.17      E
ATOM   4961  O   GLU E  69      74.587  21.009  20.071  1.00 29.71      E
ATOM   4962  N   ARG E  70      76.453  20.059  20.899  1.00 26.65      E
ATOM   4963  CA  ARG E  70      76.844  21.262  21.620  1.00 25.51      E
ATOM   4964  CB  ARG E  70      78.001  20.965  22.572  1.00 27.14      E
ATOM   4965  CG  ARG E  70      77.711  19.855  23.563  1.00 31.22      E
ATOM   4966  CD  ARG E  70      78.637  19.934  24.769  1.00 35.11      E
ATOM   4967  NE  ARG E  70      78.758  18.647  25.440  1.00 39.19      E
ATOM   4968  CZ  ARG E  70      79.456  17.628  24.956  1.00 41.08      E
ATOM   4969  NH1 ARG E  70      80.096  17.752  23.802  1.00 45.32      E
ATOM   4970  NH2 ARG E  70      79.511  16.486  25.618  1.00 44.01      E
ATOM   4971  C   ARG E  70      77.230  22.395  20.677  1.00 24.57      E
ATOM   4972  O   ARG E  70      76.927  23.557  20.941  1.00 21.44      E
ATOM   4973  N   LYS E  71      77.897  22.057  19.576  1.00 24.56      E
ATOM   4974  CA  LYS E  71      78.309  23.071  18.612  1.00 24.08      E
ATOM   4975  CB  LYS E  71      79.202  22.452  17.534  1.00 25.39      E
ATOM   4976  CG  LYS E  71      80.100  23.474  16.852  1.00 29.73      E
ATOM   4977  CD  LYS E  71      81.067  24.095  17.862  1.00 30.94      E
ATOM   4978  CE  LYS E  71      81.905  25.205  17.256  1.00 31.82      E
ATOM   4979  NZ  LYS E  71      82.774  25.849  18.290  1.00 33.45      E
ATOM   4980  C   LYS E  71      77.087  23.732  17.960  1.00 22.42      E
ATOM   4981  O   LYS E  71      77.045  24.951  17.780  1.00 18.65      E
ATOM   4982  N   ARG E  72      76.092  22.919  17.620  1.00 22.31      E
ATOM   4983  CA  ARG E  72      74.867  23.419  17.002  1.00 21.44      E
ATOM   4984  CB  ARG E  72      73.984  22.250  16.578  1.00 19.93      E
ATOM   4985  CG  ARG E  72      74.534  21.497  15.407  1.00 21.45      E
ATOM   4986  CD  ARG E  72      73.779  20.223  15.141  1.00 23.34      E
ATOM   4987  NE  ARG E  72      74.211  19.643  13.877  1.00 24.99      E
ATOM   4988  CZ  ARG E  72      74.028  18.377  13.522  1.00 27.42      E
ATOM   4989  NH1 ARG E  72      73.411  17.533  14.344  1.00 25.90      E
ATOM   4990  NH2 ARG E  72      74.475  17.955  12.341  1.00 25.41      E
ATOM   4991  C   ARG E  72      74.093  24.315  17.961  1.00 21.34      E
ATOM   4992  O   ARG E  72      73.336  25.182  17.535  1.00 23.67      E
ATOM   4993  N   ALA E  73      74.293  24.105  19.256  1.00 21.13      E
ATOM   4994  CA  ALA E  73      73.610  24.887  20.281  1.00 22.11      E
ATOM   4995  CB  ALA E  73      73.476  24.052  21.568  1.00 21.20      E
ATOM   4996  C   ALA E  73      74.347  26.189  20.576  1.00 22.67      E
ATOM   4997  O   ALA E  73      73.773  27.133  21.125  1.00 25.58      E
ATOM   4998  N   ALA E  74      75.614  26.248  20.195  1.00 22.52      E
ATOM   4999  CA  ALA E  74      76.420  27.432  20.448  1.00 22.20      E
ATOM   5000  CB  ALA E  74      77.830  27.219  19.910  1.00 24.81      E
ATOM   5001  C   ALA E  74      75.828  28.722  19.882  1.00 22.28      E
ATOM   5002  O   ALA E  74      76.027  29.796  20.452  1.00 20.24      E
ATOM   5003  N   VAL E  75      75.102  28.634  18.770  1.00 21.92      E
ATOM   5004  CA  VAL E  75      74.519  29.841  18.185  1.00 21.69      E
ATOM   5005  CB  VAL E  75      73.700  29.517  16.890  1.00 22.61      E
ATOM   5006  CG1 VAL E  75      72.488  28.657  17.219  1.00 24.39      E
ATOM   5007  CG2 VAL E  75      73.270  30.798  16.218  1.00 24.00      E
ATOM   5008  C   VAL E  75      73.639  30.558  19.219  1.00 21.26      E
ATOM   5009  O   VAL E  75      73.464  31.777  19.164  1.00 20.64      E
ATOM   5010  N   ASP E  76      73.106  29.802  20.171  1.00 20.84      E
ATOM   5011  CA  ASP E  76      72.273  30.385  21.220  1.00 23.98      E
ATOM   5012  CB  ASP E  76      71.022  29.532  21.471  1.00 25.33      E
ATOM   5013  CG  ASP E  76      70.010  29.605  20.331  1.00 27.46      E
ATOM   5014  OD1 ASP E  76      69.807  30.697  19.763  1.00 29.45      E
ATOM   5015  OD2 ASP E  76      69.398  28.566  20.020  1.00 31.17      E
ATOM   5016  C   ASP E  76      73.044  30.525  22.538  1.00 24.46      E
ATOM   5017  O   ASP E  76      72.910  31.524  23.247  1.00 25.64      E
ATOM   5018  N   ARG E  77      73.846  29.515  22.855  1.00 23.56      E
ATOM   5019  CA  ARG E  77      74.627  29.486  24.085  1.00 22.99      E
ATOM   5020  CB  ARG E  77      75.176  28.077  24.279  1.00 26.55      E
ATOM   5021  CG  ARG E  77      75.848  27.806  25.607  1.00 33.45      E
ATOM   5022  CD  ARG E  77      75.961  26.295  25.825  1.00 37.66      E
ATOM   5023  NE  ARG E  77      74.639  25.666  25.883  1.00 40.99      E
ATOM   5024  CZ  ARG E  77      74.423  24.352  25.862  1.00 43.13      E
ATOM   5025  NH1 ARG E  77      75.438  23.503  25.782  1.00 43.11      E
ATOM   5026  NH2 ARG E  77      73.183  23.885  25.914  1.00 44.93      E
ATOM   5027  C   ARG E  77      75.763  30.509  24.078  1.00 23.23      E
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ATOM   5028  O   ARG E  77      76.162  31.022  25.129  1.00 23.14      E
ATOM   5029  N   VAL E  78      76.275  30.808  22.889  1.00 20.54      E
ATOM   5030  CA  VAL E  78      77.354  31.767  22.741  1.00 19.56      E
ATOM   5031  CB  VAL E  78      78.500  31.181  21.891  1.00 19.17      E
ATOM   5032  CG1 VAL E  78      79.612  32.208  21.724  1.00 17.69      E
ATOM   5033  CG2 VAL E  78      79.032  29.921  22.541  1.00 19.40      E
ATOM   5034  C   VAL E  78      76.888  33.075  22.093  1.00 19.95      E
ATOM   5035  O   VAL E  78      76.786  34.110  22.756  1.00 21.57      E
ATOM   5036  N   CYS E  79      76.595  33.021  20.799  1.00 17.88      E
ATOM   5037  CA  CYS E  79      76.181  34.205  20.059  1.00 17.48      E
ATOM   5038  C   CYS E  79      74.967  34.966  20.620  1.00 18.40      E
ATOM   5039  O   CYS E  79      75.087  36.146  20.967  1.00 16.69      E
ATOM   5040  CB  CYS E  79      75.946  33.847  18.592  1.00 17.30      E
ATOM   5041  SG  CYS E  79      77.361  33.071  17.722  1.00 27.04      E
ATOM   5042  N   ARG E  80      73.802  34.326  20.717  1.00 17.59      E
ATOM   5043  CA  ARG E  80      72.641  35.050  21.240  1.00 20.01      E
ATOM   5044  CB  ARG E  80      71.340  34.256  21.032  1.00 20.22      E
ATOM   5045  CG  ARG E  80      70.886  34.213  19.584  1.00 22.92      E
ATOM   5046  CD  ARG E  80      69.423  33.811  19.439  1.00 23.91      E
ATOM   5047  NE  ARG E  80      68.972  33.965  18.057  1.00 23.49      E
ATOM   5048  CZ  ARG E  80      69.206  33.089  17.082  1.00 25.16      E
ATOM   5049  NH1 ARG E  80      69.884  31.975  17.326  1.00 24.15      E
ATOM   5050  NH2 ARG E  80      68.778  33.336  15.851  1.00 25.51      E
ATOM   5051  C   ARG E  80      72.804  35.423  22.716  1.00 20.35      E
ATOM   5052  O   ARG E  80      72.317  36.464  23.153  1.00 17.98      E
ATOM   5053  N   HIS E  81      73.495  34.581  23.479  1.00 21.22      E
ATOM   5054  CA  HIS E  81      73.717  34.867  24.895  1.00 22.79      E
ATOM   5055  CB  HIS E  81      74.467  33.717  25.572  1.00 24.38      E
ATOM   5056  CG  HIS E  81      74.955  34.046  26.950  1.00 26.42      E
ATOM   5057  CD2 HIS E  81      76.188  34.381  27.404  1.00 26.61      E
ATOM   5058  ND1 HIS E  81      74.122  34.080  28.048  1.00 26.60      E
ATOM   5059  CE1 HIS E  81      74.819  34.420  29.117  1.00 25.75      E
ATOM   5060  NE2 HIS E  81      76.075  34.609  28.754  1.00 26.16      E
ATOM   5061  C   HIS E  81      74.531  36.146  25.060  1.00 21.41      E
ATOM   5062  O   HIS E  81      74.109  37.076  25.742  1.00 19.84      E
ATOM   5063  N   ASN E  82      75.700  36.188  24.426  1.00 22.13      E
ATOM   5064  CA  ASN E  82      76.568  37.361  24.535  1.00 21.51      E
ATOM   5065  CB  ASN E  82      77.927  37.111  23.864  1.00 18.47      E
ATOM   5066  CG  ASN E  82      78.702  35.982  24.515  1.00 18.09      E
ATOM   5067  OD1 ASN E  82      78.453  35.632  25.669  1.00 19.05      E
ATOM   5068  ND2 ASN E  82      79.656  35.409  23.777  1.00 15.06      E
ATOM   5069  C   ASN E  82      75.936  38.612  23.949  1.00 20.33      E
ATOM   5070  O   ASN E  82      76.212  39.716  24.412  1.00 22.84      E
ATOM   5071  N   TYR E  83      75.089  38.454  22.940  1.00 19.71      E
ATOM   5072  CA  TYR E  83      74.454  39.620  22.336  1.00 20.96      E
ATOM   5073  CB  TYR E  83      73.619  39.211  21.114  1.00 21.58      E
ATOM   5074  CG  TYR E  83      73.223  40.368  20.218  1.00 22.56      E
ATOM   5075  CD1 TYR E  83      72.047  41.090  20.439  1.00 23.70      E
ATOM   5076  CE1 TYR E  83      71.682  42.152  19.593  1.00 25.46      E
ATOM   5077  CD2 TYR E  83      74.027  40.736  19.140  1.00 22.35      E
ATOM   5078  CE2 TYR E  83      73.675  41.788  18.297  1.00 24.48      E
ATOM   5079  CZ  TYR E  83      72.508  42.491  18.523  1.00 26.06      E
ATOM   5080  OH  TYR E  83      72.185  43.524  17.671  1.00 28.63      E
ATOM   5081  C   TYR E  83      73.583  40.345  23.363  1.00 21.22      E
ATOM   5082  O   TYR E  83      73.399  41.557  23.276  1.00 21.25      E
ATOM   5083  N   GLN E  84      73.046  39.606  24.333  1.00 22.94      E
ATOM   5084  CA  GLN E  84      72.234  40.226  25.377  1.00 25.07      E
ATOM   5085  CB  GLN E  84      71.631  39.180  26.324  1.00 25.76      E
ATOM   5086  CG  GLN E  84      70.863  38.047  25.653  1.00 30.97      E
ATOM   5087  CD  GLN E  84      69.889  38.525  24.594  1.00 33.95      E
ATOM   5088  OE1 GLN E  84      69.055  39.401  24.840  1.00 36.35      E
ATOM   5089  NE2 GLN E  84      69.986  37.940  23.401  1.00 36.25      E
ATOM   5090  C   GLN E  84      73.158  41.145  26.174  1.00 25.41      E
ATOM   5091  O   GLN E  84      72.804  42.290  26.473  1.00 27.11      E
ATOM   5092  N   LEU E  85      74.344  40.637  26.510  1.00 24.17      E
ATOM   5093  CA  LEU E  85      75.330  41.413  27.256  1.00 26.47      E
ATOM   5094  CB  LEU E  85      76.601  40.590  27.515  1.00 26.91      E
ATOM   5095  CG  LEU E  85      76.485  39.202  28.161  1.00 29.65      E
ATOM   5096  CD1 LEU E  85      77.872  38.735  28.587  1.00 31.29      E
ATOM   5097  CD2 LEU E  85      75.564  39.247  29.365  1.00 32.27      E
ATOM   5098  C   LEU E  85      75.698  42.661  26.459  1.00 26.89      E
ATOM   5099  O   LEU E  85      75.762  43.757  27.004  1.00 28.24      E
ATOM   5100  N   GLU E  86      75.941  42.484  25.162  1.00 27.39      E
ATOM   5101  CA  GLU E  86      76.293  43.603  24.295  1.00 28.02      E
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ATOM   5102  CB  GLU E  86      76.492  43.126  22.852  1.00 26.60      E
ATOM   5103  CG  GLU E  86      77.524  42.026  22.672  1.00 30.65      E
ATOM   5104  CD  GLU E  86      78.942  42.457  23.024  1.00 31.17      E
ATOM   5105  OE1 GLU E  86      79.860  41.612  22.919  1.00 31.68      E
ATOM   5106  OE2 GLU E  86      79.139  43.631  23.402  1.00 31.77      E
ATOM   5107  C   GLU E  86      75.165  44.630  24.327  1.00 27.95      E
ATOM   5108  O   GLU E  86      75.407  45.834  24.257  1.00 24.30      E
ATOM   5109  N   LEU E  87      73.935  44.130  24.442  1.00 28.96      E
ATOM   5110  CA  LEU E  87      72.736  44.962  24.468  1.00 32.20      E
ATOM   5111  CB  LEU E  87      71.496  44.062  24.423  1.00 32.64      E
ATOM   5112  CG  LEU E  87      70.506  44.100  23.248  1.00 35.59      E
ATOM   5113  CD1 LEU E  87      71.101  44.734  21.997  1.00 35.24      E
ATOM   5114  CD2 LEU E  87      70.071  42.675  22.965  1.00 34.35      E
ATOM   5115  C   LEU E  87      72.669  45.893  25.686  1.00 33.33      E
ATOM   5116  O   LEU E  87      71.967  46.902  25.663  1.00 32.52      E
ATOM   5117  N   ARG E  88      73.401  45.560  26.745  1.00 35.06      E
ATOM   5118  CA  ARG E  88      73.399  46.389  27.948  1.00 37.29      E
ATOM   5119  CB  ARG E  88      73.348  45.524  29.215  1.00 39.69      E
ATOM   5120  CG  ARG E  88      72.471  44.275  29.158  1.00 43.37      E
ATOM   5121  CD  ARG E  88      72.441  43.592  30.529  1.00 45.38      E
ATOM   5122  NE  ARG E  88      71.846  42.257  30.499  1.00 48.76      E
ATOM   5123  CZ  ARG E  88      70.625  41.985  30.047  1.00 50.95      E
ATOM   5124  NH1 ARG E  88      69.854  42.958  29.579  1.00 52.23      E
ATOM   5125  NH2 ARG E  88      70.171  40.738  30.064  1.00 51.26      E
ATOM   5126  C   ARG E  88      74.670  47.225  28.010  1.00 37.36      E
ATOM   5127  O   ARG E  88      74.842  48.044  28.913  1.00 37.55      E
ATOM   5128  N   THR E  89      75.564  47.019  27.049  1.00 36.40      E
ATOM   5129  CA  THR E  89      76.834  47.731  27.055  1.00 34.93      E
ATOM   5130  CB  THR E  89      77.951  46.807  27.590  1.00 36.26      E
ATOM   5131  OG1 THR E  89      77.973  45.590  26.825  1.00 34.21      E
ATOM   5132  CG2 THR E  89      77.708  46.478  29.056  1.00 33.95      E
ATOM   5133  C   THR E  89      77.294  48.304  25.718  1.00 33.37      E
ATOM   5134  O   THR E  89      76.958  49.431  25.356  1.00 33.30      E
ATOM   5135  N   THR E  90      78.080  47.510  25.000  1.00 32.11      E
ATOM   5136  CA  THR E  90      78.639  47.895  23.712  1.00 30.45      E
ATOM   5137  CB  THR E  90      79.313  46.681  23.041  1.00 31.20      E
ATOM   5138  OG1 THR E  90      80.238  46.086  23.958  1.00 32.67      E
ATOM   5139  CG2 THR E  90      80.076  47.109  21.811  1.00 32.64      E
ATOM   5140  C   THR E  90      77.639  48.504  22.738  1.00 28.40      E
ATOM   5141  O   THR E  90      77.903  49.538  22.133  1.00 27.20      E
ATOM   5142  N   LEU E  91      76.489  47.864  22.582  1.00 29.83      E
ATOM   5143  CA  LEU E  91      75.482  48.361  21.655  1.00 29.52      E
ATOM   5144  CB  LEU E  91      74.474  47.252  21.354  1.00 27.50      E
ATOM   5145  CG  LEU E  91      75.091  46.101  20.550  1.00 26.15      E
ATOM   5146  CD1 LEU E  91      74.102  44.959  20.457  1.00 24.51      E
ATOM   5147  CD2 LEU E  91      75.487  46.593  19.157  1.00 23.04      E
ATOM   5148  C   LEU E  91      74.770  49.629  22.129  1.00 30.74      E
ATOM   5149  O   LEU E  91      73.994  50.228  21.382  1.00 31.46      E
ATOM   5150  N   GLN E  92      75.035  50.043  23.366  1.00 29.33      E
ATOM   5151  CA  GLN E  92      74.427  51.259  23.884  1.00 30.04      E
ATOM   5152  CB  GLN E  92      73.869  51.044  25.294  1.00 31.55      E
ATOM   5153  CG  GLN E  92      72.500  50.381  25.327  1.00 36.90      E
ATOM   5154  CD  GLN E  92      71.865  50.426  26.706  1.00 41.59      E
ATOM   5155  OE1 GLN E  92      70.760  49.920  26.911  1.00 43.76      E
ATOM   5156  NE2 GLN E  92      72.563  51.037  27.662  1.00 43.75      E
ATOM   5157  C   GLN E  92      75.430  52.409  23.898  1.00 28.45      E
ATOM   5158  O   GLN E  92      75.059  53.558  24.125  1.00 28.57      E
ATOM   5159  N   ARG E  93      76.699  52.098  23.650  1.00 26.37      E
ATOM   5160  CA  ARG E  93      77.737  53.127  23.633  1.00 26.74      E
ATOM   5161  CB  ARG E  93      79.112  52.513  23.340  1.00 24.84      E
ATOM   5162  CG  ARG E  93      80.260  53.525  23.217  1.00 20.15      E
ATOM   5163  CD  ARG E  93      81.569  52.801  22.894  1.00 20.06      E
ATOM   5164  NE  ARG E  93      82.718  53.685  22.729  1.00 15.27      E
ATOM   5165  CZ  ARG E  93      83.316  54.330  23.729  1.00 16.93      E
ATOM   5166  NH1 ARG E  93      82.875  54.197  24.973  1.00 17.82      E
ATOM   5167  NH2 ARG E  93      84.367  55.101  23.492  1.00 16.28      E
ATOM   5168  C   ARG E  93      77.428  54.173  22.576  1.00 28.26      E
ATOM   5169  O   ARG E  93      77.202  53.847  21.407  1.00 29.80      E
ATOM   5170  N   ARG E  94      77.411  55.431  22.995  1.00 28.24      E
ATOM   5171  CA  ARG E  94      77.159  56.529  22.084  1.00 29.74      E
ATOM   5172  CB  ARG E  94      75.661  56.855  22.053  1.00 32.88      E
ATOM   5173  CG  ARG E  94      74.912  55.941  21.086  1.00 36.76      E
ATOM   5174  CD  ARG E  94      73.402  56.055  21.163  1.00 40.38      E
ATOM   5175  NE  ARG E  94      72.758  55.304  20.080  1.00 44.16      E
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ATOM   5176  CZ  ARG E  94      72.871  53.991  19.894  1.00 43.57      E
ATOM   5177  NH1 ARG E  94      73.602  53.259  20.720  1.00 45.04      E
ATOM   5178  NH2 ARG E  94      72.262  53.408  18.869  1.00 45.75      E
ATOM   5179  C   ARG E  94      77.992  57.734  22.497  1.00 29.26      E
ATOM   5180  O   ARG E  94      77.773  58.331  23.546  1.00 30.32      E
ATOM   5181  N   VAL E  95      78.974  58.063  21.667  1.00 26.76      E
ATOM   5182  CA  VAL E  95      79.859  59.188  21.936  1.00 25.75      E
ATOM   5183  CB  VAL E  95      81.340  58.763  21.855  1.00 22.33      E
ATOM   5184  CG1 VAL E  95      82.244  59.914  22.287  1.00 19.80      E
ATOM   5185  CG2 VAL E  95      81.565  57.534  22.717  1.00 19.11      E
ATOM   5186  C   VAL E  95      79.600  60.266  20.902  1.00 26.51      E
ATOM   5187  O   VAL E  95      79.787  60.042  19.703  1.00 27.04      E
ATOM   5188  N   GLU E  96      79.160  61.430  21.366  1.00 27.28      E
ATOM   5189  CA  GLU E  96      78.870  62.536  20.466  1.00 28.16      E
ATOM   5190  CB  GLU E  96      78.260  63.716  21.227  1.00 30.40      E
ATOM   5191  CG  GLU E  96      76.965  63.396  21.952  1.00 34.36      E
ATOM   5192  CD  GLU E  96      76.348  64.625  22.609  1.00 36.84      E
ATOM   5193  OE1 GLU E  96      75.295  64.478  23.272  1.00 38.81      E
ATOM   5194  OE2 GLU E  96      76.914  65.734  22.460  1.00 35.73      E
ATOM   5195  C   GLU E  96      80.148  62.987  19.793  1.00 25.65      E
ATOM   5196  O   GLU E  96      81.176  63.171  20.440  1.00 24.93      E
ATOM   5197  N   PRO E  97      80.101  63.168  18.473  1.00 25.41      E
ATOM   5198  CD  PRO E  97      78.977  62.979  17.539  1.00 24.36      E
ATOM   5199  CA  PRO E  97      81.304  63.603  17.770  1.00 24.81      E
ATOM   5200  CB  PRO E  97      80.927  63.416  16.306  1.00 24.85      E
ATOM   5201  CG  PRO E  97      79.456  63.717  16.309  1.00 25.36      E
ATOM   5202  C   PRO E  97      81.643  65.048  18.089  1.00 24.48      E
ATOM   5203  O   PRO E  97      80.761  65.844  18.419  1.00 23.85      E
ATOM   5204  N   THR E  98      82.927  65.377  18.025  1.00 22.82      E
ATOM   5205  CA  THR E  98      83.340  66.748  18.244  1.00 24.12      E
ATOM   5206  CB  THR E  98      84.679  66.852  19.019  1.00 26.31      E
ATOM   5207  OG1 THR E  98      85.744  66.355  18.205  1.00 34.47      E
ATOM   5208  CG2 THR E  98      84.623  66.049  20.302  1.00 23.83      E
ATOM   5209  C   THR E  98      83.519  67.254  16.817  1.00 22.12      E
ATOM   5210  O   THR E  98      84.162  66.601  15.993  1.00 21.35      E
ATOM   5211  N   VAL E  99      82.923  68.400  16.516  1.00 21.99      E
ATOM   5212  CA  VAL E  99      83.001  68.957  15.177  1.00 20.67      E
ATOM   5213  CB  VAL E  99      81.585  69.217  14.619  1.00 19.57      E
ATOM   5214  CG1 VAL E  99      81.667  69.645  13.154  1.00 14.62      E
ATOM   5215  CG2 VAL E  99      80.732  67.944  14.766  1.00 15.20      E
ATOM   5216  C   VAL E  99      83.814  70.240  15.158  1.00 22.05      E
ATOM   5217  O   VAL E  99      83.524  71.194  15.884  1.00 22.27      E
ATOM   5218  N   THR E 100      84.827  70.250  14.304  1.00 21.34      E
ATOM   5219  CA  THR E 100      85.728  71.376  14.176  1.00 23.10      E
ATOM   5220  CB  THR E 100      87.104  71.024  14.786  1.00 24.55      E
ATOM   5221  OG1 THR E 100      86.941  70.728  16.180  1.00 30.47      E
ATOM   5222  CG2 THR E 100      88.079  72.183  14.634  1.00 27.79      E
ATOM   5223  C   THR E 100      85.934  71.777  12.722  1.00 23.36      E
ATOM   5224  O   THR E 100      86.024  70.926  11.842  1.00 21.77      E
ATOM   5225  N   ILE E 101      86.009  73.082  12.473  1.00 24.40      E
ATOM   5226  CA  ILE E 101      86.236  73.584  11.124  1.00 25.31      E
ATOM   5227  CB  ILE E 101      85.092  74.518  10.645  1.00 24.21      E
ATOM   5228  CG2 ILE E 101      85.398  75.044   9.245  1.00 22.51      E
ATOM   5229  CG1 ILE E 101      83.760  73.768  10.636  1.00 24.86      E
ATOM   5230  CD1 ILE E 101      82.584  74.635  10.197  1.00 25.22      E
ATOM   5231  C   ILE E 101      87.538  74.372  11.116  1.00 26.66      E
ATOM   5232  O   ILE E 101      87.859  75.065  12.074  1.00 26.18      E
ATOM   5233  N   SER E 102      88.287  74.262  10.029  1.00 31.17      E
ATOM   5234  CA  SER E 102      89.547  74.977   9.902  1.00 35.36      E
ATOM   5235  CB  SER E 102      90.619  74.306  10.755  1.00 34.20      E
ATOM   5236  OG  SER E 102      90.777  72.953  10.374  1.00 40.09      E
ATOM   5237  C   SER E 102      89.976  74.979   8.448  1.00 36.82      E
ATOM   5238  O   SER E 102      89.913  73.953   7.777  1.00 36.68      E
ATOM   5239  N   PRO E 103      90.404  76.139   7.932  1.00 39.96      E
ATOM   5240  CD  PRO E 103      90.458  77.473   8.553  1.00 40.07      E
ATOM   5241  CA  PRO E 103      90.831  76.190   6.532  1.00 42.01      E
ATOM   5242  CB  PRO E 103      90.856  77.682   6.237  1.00 41.76      E
ATOM   5243  CG  PRO E 103      91.282  78.258   7.556  1.00 42.86      E
ATOM   5244  C   PRO E 103      92.196  75.534   6.390  1.00 44.62      E
ATOM   5245  O   PRO E 103      92.943  75.430   7.365  1.00 44.53      E
ATOM   5246  N   SER E 104      92.514  75.086   5.181  1.00 47.92      E
ATOM   5247  CA  SER E 104      93.789  74.426   4.920  1.00 50.83      E
ATOM   5248  CB  SER E 104      93.712  73.637   3.612  1.00 52.33      E
ATOM   5249  OG  SER E 104      94.904  72.901   3.396  1.00 55.60      E
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ATOM	5250	C	SER	E	104	94.941	75.422	4.845	1.00	52.18	E
ATOM	5251	O	SER	E	104	96.080	75.093	5.186	1.00	53.53	E
ATOM	5252	N	ASN	E	113	90.669	78.112	-1.692	1.00	48.40	E
ATOM	5253	CA	ASN	E	113	90.651	77.795	-0.269	1.00	47.57	E
ATOM	5254	CB	ASN	E	113	89.863	78.854	0.496	1.00	51.34	E
ATOM	5255	CG	ASN	E	113	90.504	80.219	0.417	1.00	52.99	E
ATOM	5256	OD1	ASN	E	113	90.693	80.765	-0.670	1.00	55.11	E
ATOM	5257	ND2	ASN	E	113	90.845	80.781	1.572	1.00	55.09	E
ATOM	5258	C	ASN	E	113	90.045	76.424	-0.001	1.00	44.87	E
ATOM	5259	O	ASN	E	113	89.374	75.852	-0.860	1.00	44.99	E
ATOM	5260	N	LEU	E	114	90.282	75.904	1.197	1.00	41.65	E
ATOM	5261	CA	LEU	E	114	89.765	74.592	1.568	1.00	38.53	E
ATOM	5262	CB	LEU	E	114	90.823	73.521	1.287	1.00	38.84	E
ATOM	5263	CG	LEU	E	114	90.383	72.060	1.441	1.00	40.32	E
ATOM	5264	CD1	LEU	E	114	89.314	71.726	0.400	1.00	39.94	E
ATOM	5265	CD2	LEU	E	114	91.586	71.145	1.266	1.00	40.52	E
ATOM	5266	C	LEU	E	114	89.349	74.523	3.036	1.00	34.78	E
ATOM	5267	O	LEU	E	114	90.173	74.684	3.929	1.00	33.51	E
ATOM	5268	N	LEU	E	115	88.063	74.293	3.278	1.00	32.05	E
ATOM	5269	CA	LEU	E	115	87.550	74.181	4.641	1.00	29.68	E
ATOM	5270	CB	LEU	E	115	86.158	74.809	4.754	1.00	29.84	E
ATOM	5271	CG	LEU	E	115	86.046	76.257	5.241	1.00	31.52	E
ATOM	5272	CD1	LEU	E	115	87.101	77.140	4.574	1.00	32.51	E
ATOM	5273	CD2	LEU	E	115	84.636	76.762	4.948	1.00	30.75	E
ATOM	5274	C	LEU	E	115	87.472	72.712	5.034	1.00	27.57	E
ATOM	5275	O	LEU	E	115	86.871	71.900	4.331	1.00	25.33	E
ATOM	5276	N	VAL	E	116	88.089	72.381	6.161	1.00	26.32	E
ATOM	5277	CA	VAL	E	116	88.099	71.014	6.651	1.00	24.42	E
ATOM	5278	CB	VAL	E	116	89.513	70.572	7.075	1.00	24.51	E
ATOM	5279	CG1	VAL	E	116	89.467	69.160	7.641	1.00	22.66	E
ATOM	5280	CG2	VAL	E	116	90.458	70.643	5.879	1.00	26.70	E
ATOM	5281	C	VAL	E	116	87.195	70.842	7.846	1.00	22.77	E
ATOM	5282	O	VAL	E	116	87.376	71.496	8.868	1.00	23.04	E
ATOM	5283	N	CYS	E	117	86.208	69.968	7.717	1.00	22.34	E
ATOM	5284	CA	CYS	E	117	85.326	69.711	8.840	1.00	21.65	E
ATOM	5285	C	CYS	E	117	85.769	68.391	9.466	1.00	19.44	E
ATOM	5286	O	CYS	E	117	85.607	67.319	8.877	1.00	18.95	E
ATOM	5287	CB	CYS	E	117	83.863	69.626	8.401	1.00	22.57	E
ATOM	5288	SG	CYS	E	117	82.771	69.420	9.844	1.00	25.79	E
ATOM	5289	N	SER	E	118	86.355	68.488	10.654	1.00	19.92	E
ATOM	5290	CA	SER	E	118	86.837	67.330	11.387	1.00	17.98	E
ATOM	5291	CB	SER	E	118	88.115	67.671	12.146	1.00	18.33	E
ATOM	5292	OG	SER	E	118	89.121	68.117	11.260	1.00	24.58	E
ATOM	5293	C	SER	E	118	85.798	66.860	12.377	1.00	17.01	E
ATOM	5294	O	SER	E	118	85.507	67.543	13.354	1.00	16.69	E
ATOM	5295	N	VAL	E	119	85.240	65.688	12.112	1.00	16.58	E
ATOM	5296	CA	VAL	E	119	84.242	65.095	12.985	1.00	16.03	E
ATOM	5297	CB	VAL	E	119	83.040	64.582	12.160	1.00	15.47	E
ATOM	5298	CG1	VAL	E	119	81.918	64.147	13.077	1.00	13.75	E
ATOM	5299	CG2	VAL	E	119	82.559	65.686	11.216	1.00	10.95	E
ATOM	5300	C	VAL	E	119	85.018	63.960	13.638	1.00	17.51	E
ATOM	5301	O	VAL	E	119	85.238	62.906	13.042	1.00	19.30	E
ATOM	5302	N	THR	E	120	85.442	64.203	14.871	1.00	18.44	E
ATOM	5303	CA	THR	E	120	86.265	63.266	15.616	1.00	18.41	E
ATOM	5304	CB	THR	E	120	87.562	63.962	16.042	1.00	18.11	E
ATOM	5305	OG1	THR	E	120	87.242	65.078	16.887	1.00	17.18	E
ATOM	5306	CG2	THR	E	120	88.304	64.481	14.835	1.00	16.77	E
ATOM	5307	C	THR	E	120	85.655	62.656	16.875	1.00	20.11	E
ATOM	5308	O	THR	E	120	84.665	63.148	17.417	1.00	21.96	E
ATOM	5309	N	ASP	E	121	86.272	61.566	17.319	1.00	19.96	E
ATOM	5310	CA	ASP	E	121	85.882	60.864	18.529	1.00	21.06	E
ATOM	5311	CB	ASP	E	121	86.313	61.686	19.745	1.00	25.93	E
ATOM	5312	CG	ASP	E	121	87.814	61.765	19.882	1.00	30.02	E
ATOM	5313	OD1	ASP	E	121	88.291	62.524	20.756	1.00	34.97	E
ATOM	5314	OD2	ASP	E	121	88.513	61.063	19.114	1.00	31.15	E
ATOM	5315	C	ASP	E	121	84.431	60.463	18.709	1.00	20.39	E
ATOM	5316	O	ASP	E	121	83.857	60.698	19.766	1.00	22.05	E
ATOM	5317	N	PHE	E	122	83.827	59.841	17.708	1.00	19.69	E
ATOM	5318	CA	PHE	E	122	82.443	59.429	17.873	1.00	18.28	E
ATOM	5319	CB	PHE	E	122	81.538	60.108	16.843	1.00	16.99	E
ATOM	5320	CG	PHE	E	122	81.905	59.821	15.417	1.00	16.67	E
ATOM	5321	CD1	PHE	E	122	82.770	60.661	14.725	1.00	16.72	E
ATOM	5322	CD2	PHE	E	122	81.370	58.717	14.756	1.00	17.17	E
ATOM	5323	CE1	PHE	E	122	83.096	60.410	13.384	1.00	17.00	E

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ATOM   5324  CE2 PHE E 122      81.686  58.456  13.419  1.00 16.82      E
ATOM   5325  CZ  PHE E 122      82.549  59.305  12.733  1.00 15.81      E
ATOM   5326  C   PHE E 122      82.287  57.925  17.774  1.00 18.35      E
ATOM   5327  O   PHE E 122      83.168  57.231  17.272  1.00 15.90      E
ATOM   5328  N   TYR E 123      81.157  57.436  18.276  1.00 19.49      E
ATOM   5329  CA  TYR E 123      80.818  56.021  18.243  1.00 20.92      E
ATOM   5330  CB  TYR E 123      81.523  55.261  19.374  1.00 21.02      E
ATOM   5331  CG  TYR E 123      81.387  53.762  19.247  1.00 20.05      E
ATOM   5332  CD1 TYR E 123      80.242  53.103  19.688  1.00 21.66      E
ATOM   5333  CE1 TYR E 123      80.095  51.726  19.516  1.00 21.85      E
ATOM   5334  CD2 TYR E 123      82.383  53.009  18.633  1.00 20.08      E
ATOM   5335  CE2 TYR E 123      82.250  51.643  18.455  1.00 19.20      E
ATOM   5336  CZ  TYR E 123      81.105  51.002  18.896  1.00 22.24      E
ATOM   5337  OH  TYR E 123      80.970  49.640  18.712  1.00 25.26      E
ATOM   5338  C   TYR E 123      79.311  55.957  18.440  1.00 21.42      E
ATOM   5339  O   TYR E 123      78.778  56.647  19.305  1.00 23.90      E
ATOM   5340  N   PRO E 124      78.609  55.100  17.676  1.00 20.39      E
ATOM   5341  CD  PRO E 124      77.155  54.937  17.844  1.00 21.24      E
ATOM   5342  CA  PRO E 124      79.113  54.177  16.655  1.00 21.61      E
ATOM   5343  CB  PRO E 124      77.956  53.188  16.500  1.00 19.35      E
ATOM   5344  CG  PRO E 124      76.776  54.056  16.670  1.00 19.34      E
ATOM   5345  C   PRO E 124      79.549  54.802  15.325  1.00 20.84      E
ATOM   5346  O   PRO E 124      79.602  56.024  15.184  1.00 22.13      E
ATOM   5347  N   ALA E 125      79.862  53.940  14.361  1.00 22.61      E
ATOM   5348  CA  ALA E 125      80.329  54.341  13.027  1.00 25.48      E
ATOM   5349  CB  ALA E 125      80.860  53.121  12.288  1.00 26.06      E
ATOM   5350  C   ALA E 125      79.311  55.058  12.137  1.00 27.38      E
ATOM   5351  O   ALA E 125      79.681  55.906  11.332  1.00 29.08      E
ATOM   5352  N   GLN E 126      78.039  54.706  12.268  1.00 29.18      E
ATOM   5353  CA  GLN E 126      76.990  55.312  11.455  1.00 29.94      E
ATOM   5354  CB  GLN E 126      75.625  54.737  11.848  1.00 33.48      E
ATOM   5355  CG  GLN E 126      75.536  53.200  11.840  1.00 39.27      E
ATOM   5356  CD  GLN E 126      76.067  52.537  13.117  1.00 41.92      E
ATOM   5357  OE1 GLN E 126      77.271  52.523  13.379  1.00 44.02      E
ATOM   5358  NE2 GLN E 126      75.159  51.981  13.913  1.00 43.83      E
ATOM   5359  C   GLN E 126      76.977  56.829  11.621  1.00 28.88      E
ATOM   5360  O   GLN E 126      76.739  57.331  12.719  1.00 28.83      E
ATOM   5361  N   ILE E 127      77.221  57.558  10.532  1.00 27.90      E
ATOM   5362  CA  ILE E 127      77.245  59.018  10.591  1.00 25.67      E
ATOM   5363  CB  ILE E 127      78.611  59.514  11.150  1.00 25.23      E
ATOM   5364  CG2 ILE E 127      79.693  59.398  10.084  1.00 21.16      E
ATOM   5365  CG1 ILE E 127      78.504  60.965  11.610  1.00 22.40      E
ATOM   5366  CD1 ILE E 127      79.610  61.376  12.546  1.00 25.35      E
ATOM   5367  C   ILE E 127      76.985  59.673   9.230  1.00 26.38      E
ATOM   5368  O   ILE E 127      77.196  59.065   8.182  1.00 26.20      E
ATOM   5369  N   LYS E 128      76.521  60.916   9.252  1.00 25.64      E
ATOM   5370  CA  LYS E 128      76.248  61.635   8.016  1.00 29.02      E
ATOM   5371  CB  LYS E 128      74.754  61.566   7.671  1.00 29.97      E
ATOM   5372  CG  LYS E 128      74.408  62.178   6.317  1.00 35.17      E
ATOM   5373  CD  LYS E 128      75.175  61.487   5.183  1.00 39.63      E
ATOM   5374  CE  LYS E 128      74.936  62.163   3.836  1.00 41.20      E
ATOM   5375  NZ  LYS E 128      75.685  61.492   2.731  1.00 44.74      E
ATOM   5376  C   LYS E 128      76.683  63.090   8.154  1.00 28.40      E
ATOM   5377  O   LYS E 128      76.203  63.812   9.028  1.00 27.15      E
ATOM   5378  N   VAL E 129      77.600  63.506   7.287  1.00 28.99      E
ATOM   5379  CA  VAL E 129      78.119  64.866   7.304  1.00 29.32      E
ATOM   5380  CB  VAL E 129      79.651  64.860   7.502  1.00 30.69      E
ATOM   5381  CG1 VAL E 129      80.171  66.282   7.654  1.00 27.54      E
ATOM   5382  CG2 VAL E 129      80.014  64.012   8.721  1.00 30.82      E
ATOM   5383  C   VAL E 129      77.788  65.574   5.992  1.00 30.45      E
ATOM   5384  O   VAL E 129      78.042  65.039   4.915  1.00 30.36      E
ATOM   5385  N   ARG E 130      77.221  66.775   6.090  1.00 31.17      E
ATOM   5386  CA  ARG E 130      76.851  67.562   4.914  1.00 32.17      E
ATOM   5387  CB  ARG E 130      75.330  67.626   4.764  1.00 34.73      E
ATOM   5388  CG  ARG E 130      74.632  66.335   4.400  1.00 40.85      E
ATOM   5389  CD  ARG E 130      73.121  66.527   4.511  1.00 46.16      E
ATOM   5390  NE  ARG E 130      72.365  65.456   3.864  1.00 51.33      E
ATOM   5391  CZ  ARG E 130      71.046  65.308   3.959  1.00 53.45      E
ATOM   5392  NH1 ARG E 130      70.327  66.162   4.680  1.00 54.21      E
ATOM   5393  NH2 ARG E 130      70.444  64.307   3.329  1.00 53.97      E
ATOM   5394  C   ARG E 130      77.359  68.994   5.017  1.00 30.88      E
ATOM   5395  O   ARG E 130      77.321  69.590   6.093  1.00 30.84      E
ATOM   5396  N   TRP E 131      77.831  69.542   3.900  1.00 29.14      E
ATOM   5397  CA  TRP E 131      78.291  70.928   3.865  1.00 29.57      E
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ATOM   5398  CB  TRP E 131      79.538  71.086   2.996  1.00 27.97      E
ATOM   5399  CG  TRP E 131      80.809  70.979   3.760  1.00 29.37      E
ATOM   5400  CD2 TRP E 131      81.342  71.949   4.671  1.00 29.95      E
ATOM   5401  CE2 TRP E 131      82.551  71.427   5.174  1.00 29.75      E
ATOM   5402  CE3 TRP E 131      80.913  73.209   5.111  1.00 30.39      E
ATOM   5403  CD1 TRP E 131      81.689  69.941   3.747  1.00 29.02      E
ATOM   5404  NE1 TRP E 131      82.738  70.200   4.592  1.00 30.01      E
ATOM   5405  CZ2 TRP E 131      83.340  72.119   6.095  1.00 28.79      E
ATOM   5406  CZ3 TRP E 131      81.697  73.900   6.027  1.00 31.30      E
ATOM   5407  CH2 TRP E 131      82.900  73.350   6.509  1.00 31.69      E
ATOM   5408  C   TRP E 131      77.185  71.817   3.301  1.00 30.08      E
ATOM   5409  O   TRP E 131      76.449  71.413   2.392  1.00 29.15      E
ATOM   5410  N   PHE E 132      77.081  73.027   3.842  1.00 29.87      E
ATOM   5411  CA  PHE E 132      76.078  73.985   3.405  1.00 30.98      E
ATOM   5412  CB  PHE E 132      74.963  74.094   4.443  1.00 32.09      E
ATOM   5413  CG  PHE E 132      74.041  72.918   4.461  1.00 33.03      E
ATOM   5414  CD1 PHE E 132      72.913  72.896   3.650  1.00 35.25      E
ATOM   5415  CD2 PHE E 132      74.306  71.822   5.273  1.00 33.31      E
ATOM   5416  CE1 PHE E 132      72.055  71.794   3.646  1.00 35.49      E
ATOM   5417  CE2 PHE E 132      73.460  70.717   5.279  1.00 35.47      E
ATOM   5418  CZ  PHE E 132      72.330  70.704   4.461  1.00 35.97      E
ATOM   5419  C   PHE E 132      76.668  75.364   3.182  1.00 32.06      E
ATOM   5420  O   PHE E 132      77.537  75.812   3.929  1.00 29.15      E
ATOM   5421  N   ARG E 133      76.186  76.026   2.138  1.00 34.68      E
ATOM   5422  CA  ARG E 133      76.613  77.375   1.809  1.00 37.78      E
ATOM   5423  CB  ARG E 133      77.281  77.420   0.434  1.00 40.14      E
ATOM   5424  CG  ARG E 133      77.755  78.810   0.005  1.00 43.27      E
ATOM   5425  CD  ARG E 133      78.474  78.742  -1.341  1.00 46.34      E
ATOM   5426  NE  ARG E 133      79.096  80.006  -1.738  1.00 49.86      E
ATOM   5427  CZ  ARG E 133      78.441  81.058  -2.226  1.00 51.63      E
ATOM   5428  NH1 ARG E 133      77.124  81.018  -2.387  1.00 51.33      E
ATOM   5429  NH2 ARG E 133      79.111  82.155  -2.562  1.00 52.46      E
ATOM   5430  C   ARG E 133      75.343  78.204   1.792  1.00 38.70      E
ATOM   5431  O   ARG E 133      74.569  78.154   0.835  1.00 38.81      E
ATOM   5432  N   ASN E 134      75.119  78.940   2.872  1.00 39.37      E
ATOM   5433  CA  ASN E 134      73.941  79.787   2.984  1.00 42.21      E
ATOM   5434  CB  ASN E 134      74.040  80.952   1.988  1.00 40.37      E
ATOM   5435  CG  ASN E 134      75.383  81.667   2.051  1.00 39.50      E
ATOM   5436  OD1 ASN E 134      75.796  82.151   3.104  1.00 35.36      E
ATOM   5437  ND2 ASN E 134      76.071  81.733   0.917  1.00 39.94      E
ATOM   5438  C   ASN E 134      72.652  79.000   2.734  1.00 43.61      E
ATOM   5439  O   ASN E 134      71.899  79.306   1.809  1.00 45.62      E
ATOM   5440  N   ASP E 135      72.403  77.983   3.550  1.00 45.40      E
ATOM   5441  CA  ASP E 135      71.189  77.178   3.413  1.00 47.16      E
ATOM   5442  C   ASP E 135      71.147  76.279   2.173  1.00 48.15      E
ATOM   5443  O   ASP E 135      70.205  75.504   1.996  1.00 49.25      E
ATOM   5444  N   GLN E 136      72.158  76.387   1.316  1.00 48.16      E
ATOM   5445  CA  GLN E 136      72.226  75.561   0.113  1.00 47.50      E
ATOM   5446  C   GLN E 136      73.254  74.445   0.313  1.00 47.38      E
ATOM   5447  O   GLN E 136      74.418  74.711   0.627  1.00 46.25      E
ATOM   5448  N   GLU E 137      72.829  73.197   0.139  1.00 47.09      E
ATOM   5449  CA  GLU E 137      73.749  72.079   0.308  1.00 47.41      E
ATOM   5450  CB  GLU E 137      72.992  70.752   0.406  1.00 47.53      E
ATOM   5451  CG  GLU E 137      73.921  69.570   0.653  1.00 49.67      E
ATOM   5452  CD  GLU E 137      73.210  68.334   1.166  1.00 51.28      E
ATOM   5453  OE1 GLU E 137      73.911  67.336   1.432  1.00 52.31      E
ATOM   5454  OE2 GLU E 137      71.965  68.352   1.306  1.00 51.54      E
ATOM   5455  C   GLU E 137      74.755  72.016  -0.833  1.00 47.37      E
ATOM   5456  O   GLU E 137      74.397  72.163  -2.000  1.00 47.51      E
ATOM   5457  N   GLU E 138      76.018  71.809  -0.477  1.00 47.53      E
ATOM   5458  CA  GLU E 138      77.104  71.724  -1.444  1.00 48.48      E
ATOM   5459  CB  GLU E 138      78.266  72.617  -1.011  1.00 49.89      E
ATOM   5460  CG  GLU E 138      77.949  74.096  -0.973  1.00 54.83      E
ATOM   5461  CD  GLU E 138      77.911  74.720  -2.354  1.00 57.91      E
ATOM   5462  OE1 GLU E 138      78.953  74.686  -3.044  1.00 59.04      E
ATOM   5463  OE2 GLU E 138      76.846  75.247  -2.748  1.00 58.96      E
ATOM   5464  C   GLU E 138      77.593  70.284  -1.532  1.00 48.42      E
ATOM   5465  O   GLU E 138      77.898  69.665  -0.513  1.00 48.62      E
ATOM   5466  N   THR E 139      77.665  69.754  -2.748  1.00 47.87      E
ATOM   5467  CA  THR E 139      78.135  68.387  -2.959  1.00 48.16      E
ATOM   5468  CB  THR E 139      77.027  67.498  -3.556  1.00 49.05      E
ATOM   5469  OG1 THR E 139      76.464  68.140  -4.710  1.00 51.25      E
ATOM   5470  CG2 THR E 139      75.938  67.249  -2.525  1.00 48.03      E
ATOM   5471  C   THR E 139      79.339  68.401  -3.895  1.00 46.96      E
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ATOM   5472  O   THR E 139      80.245  67.574  -3.779  1.00 46.46      E
ATOM   5473  N   ALA E 140      79.339  69.346  -4.827  1.00 46.59      E
ATOM   5474  CA  ALA E 140      80.446  69.488  -5.761  1.00 45.07      E
ATOM   5475  CB  ALA E 140      79.997  70.244  -7.008  1.00 44.64      E
ATOM   5476  C   ALA E 140      81.518  70.276  -5.019  1.00 43.57      E
ATOM   5477  O   ALA E 140      81.224  71.293  -4.386  1.00 43.33      E
ATOM   5478  N   GLY E 141      82.756  69.805  -5.091  1.00 41.31      E
ATOM   5479  CA  GLY E 141      83.833  70.485  -4.398  1.00 38.27      E
ATOM   5480  C   GLY E 141      84.053  69.854  -3.034  1.00 36.91      E
ATOM   5481  O   GLY E 141      84.930  70.264  -2.272  1.00 37.78      E
ATOM   5482  N   VAL E 142      83.245  68.849  -2.722  1.00 33.36      E
ATOM   5483  CA  VAL E 142      83.363  68.164  -1.449  1.00 32.16      E
ATOM   5484  CB  VAL E 142      81.978  67.844  -0.847  1.00 31.40      E
ATOM   5485  CG1 VAL E 142      82.140  66.995   0.407  1.00 28.96      E
ATOM   5486  CG2 VAL E 142      81.245  69.134  -0.516  1.00 33.20      E
ATOM   5487  C   VAL E 142      84.140  66.859  -1.576  1.00 31.49      E
ATOM   5488  O   VAL E 142      83.862  66.032  -2.450  1.00 31.67      E
ATOM   5489  N   VAL E 143      85.118  66.684  -0.696  1.00 30.51      E
ATOM   5490  CA  VAL E 143      85.922  65.473  -0.675  1.00 30.35      E
ATOM   5491  CB  VAL E 143      87.367  65.731  -1.161  1.00 30.33      E
ATOM   5492  CG1 VAL E 143      88.096  64.408  -1.348  1.00 32.44      E
ATOM   5493  CG2 VAL E 143      87.347  66.503  -2.460  1.00 33.96      E
ATOM   5494  C   VAL E 143      85.966  64.973   0.767  1.00 29.68      E
ATOM   5495  O   VAL E 143      86.242  65.733   1.695  1.00 29.63      E
ATOM   5496  N   SER E 144      85.696  63.689   0.946  1.00 28.32      E
ATOM   5497  CA  SER E 144      85.703  63.090   2.268  1.00 25.38      E
ATOM   5498  CB  SER E 144      84.295  62.613   2.622  1.00 26.70      E
ATOM   5499  OG  SER E 144      84.300  61.845   3.807  1.00 28.37      E
ATOM   5500  C   SER E 144      86.663  61.916   2.361  1.00 24.56      E
ATOM   5501  O   SER E 144      86.824  61.148   1.412  1.00 23.42      E
ATOM   5502  N   THR E 145      87.320  61.790   3.506  1.00 24.40      E
ATOM   5503  CA  THR E 145      88.218  60.666   3.726  1.00 24.38      E
ATOM   5504  CB  THR E 145      89.103  60.849   4.983  1.00 24.55      E
ATOM   5505  OG1 THR E 145      88.273  60.815   6.155  1.00 21.59      E
ATOM   5506  CG2 THR E 145      89.858  62.162   4.935  1.00 24.64      E
ATOM   5507  C   THR E 145      87.256  59.539   4.055  1.00 23.78      E
ATOM   5508  O   THR E 145      86.064  59.766   4.242  1.00 23.97      E
ATOM   5509  N   PRO E 146      87.745  58.300   4.099  1.00 25.25      E
ATOM   5510  CD  PRO E 146      88.993  57.713   3.585  1.00 25.42      E
ATOM   5511  CA  PRO E 146      86.770  57.264   4.447  1.00 25.00      E
ATOM   5512  CB  PRO E 146      87.439  55.983   3.951  1.00 26.60      E
ATOM   5513  CG  PRO E 146      88.905  56.293   4.094  1.00 27.24      E
ATOM   5514  C   PRO E 146      86.597  57.284   5.976  1.00 23.26      E
ATOM   5515  O   PRO E 146      87.286  58.030   6.672  1.00 21.73      E
ATOM   5516  N   LEU E 147      85.669  56.492   6.495  1.00 23.85      E
ATOM   5517  CA  LEU E 147      85.476  56.419   7.936  1.00 23.63      E
ATOM   5518  CB  LEU E 147      84.355  55.428   8.260  1.00 25.11      E
ATOM   5519  CG  LEU E 147      83.976  55.241   9.731  1.00 28.28      E
ATOM   5520  CD1 LEU E 147      83.392  56.530  10.270  1.00 29.44      E
ATOM   5521  CD2 LEU E 147      82.965  54.116   9.867  1.00 28.72      E
ATOM   5522  C   LEU E 147      86.812  55.915   8.503  1.00 22.77      E
ATOM   5523  O   LEU E 147      87.366  54.944   8.003  1.00 23.04      E
ATOM   5524  N   ILE E 148      87.337  56.574   9.530  1.00 21.06      E
ATOM   5525  CA  ILE E 148      88.614  56.156  10.102  1.00 19.40      E
ATOM   5526  CB  ILE E 148      89.588  57.355  10.200  1.00 20.05      E
ATOM   5527  CG2 ILE E 148      90.903  56.922  10.835  1.00 19.93      E
ATOM   5528  CG1 ILE E 148      89.854  57.918   8.803  1.00 17.58      E
ATOM   5529  CD1 ILE E 148      90.594  59.225   8.821  1.00 20.23      E
ATOM   5530  C   ILE E 148      88.449  55.534  11.489  1.00 17.19      E
ATOM   5531  O   ILE E 148      87.820  56.118  12.360  1.00 15.81      E
ATOM   5532  N   ARG E 149      89.015  54.344  11.677  1.00 15.23      E
ATOM   5533  CA  ARG E 149      88.948  53.638  12.956  1.00 16.42      E
ATOM   5534  CB  ARG E 149      88.906  52.128  12.724  1.00 20.12      E
ATOM   5535  CG  ARG E 149      88.903  51.289  14.000  1.00 21.32      E
ATOM   5536  CD  ARG E 149      88.963  49.802  13.649  1.00 22.44      E
ATOM   5537  NE  ARG E 149      87.825  49.382  12.830  1.00 22.55      E
ATOM   5538  CZ  ARG E 149      86.623  49.084  13.313  1.00 22.89      E
ATOM   5539  NH1 ARG E 149      85.650  48.718  12.490  1.00 24.25      E
ATOM   5540  NH2 ARG E 149      86.398  49.139  14.619  1.00 23.36      E
ATOM   5541  C   ARG E 149      90.174  53.983  13.786  1.00 16.33      E
ATOM   5542  O   ARG E 149      91.305  53.734  13.363  1.00 16.45      E
ATOM   5543  N   ASN E 150      89.953  54.558  14.963  1.00 15.72      E
ATOM   5544  CA  ASN E 150      91.061  54.948  15.825  1.00 15.93      E
ATOM   5545  CB  ASN E 150      90.662  56.125  16.740  1.00 13.37      E
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ATOM   5546  CG  ASN E 150      90.278  57.383  15.955  1.00 15.55      E
ATOM   5547  OD1 ASN E 150      90.922  57.739  14.955  1.00 14.20      E
ATOM   5548  ND2 ASN E 150      89.233  58.068  16.414  1.00 15.61      E
ATOM   5549  C   ASN E 150      91.576  53.786  16.670  1.00 16.79      E
ATOM   5550  O   ASN E 150      92.694  53.838  17.180  1.00 18.80      E
ATOM   5551  N   GLY E 151      90.764  52.745  16.813  1.00 16.63      E
ATOM   5552  CA  GLY E 151      91.164  51.587  17.593  1.00 18.68      E
ATOM   5553  C   GLY E 151      90.879  51.684  19.080  1.00 20.19      E
ATOM   5554  O   GLY E 151      91.087  50.725  19.818  1.00 21.39      E
ATOM   5555  N   ASP E 152      90.409  52.836  19.539  1.00 19.57      E
ATOM   5556  CA  ASP E 152      90.108  52.986  20.954  1.00 19.09      E
ATOM   5557  CB  ASP E 152      90.865  54.177  21.531  1.00 18.53      E
ATOM   5558  CG  ASP E 152      90.498  55.481  20.856  1.00 21.27      E
ATOM   5559  OD1 ASP E 152      89.736  55.453  19.864  1.00 20.11      E
ATOM   5560  OD2 ASP E 152      90.984  56.531  21.321  1.00 22.57      E
ATOM   5561  C   ASP E 152      88.605  53.156  21.182  1.00 19.23      E
ATOM   5562  O   ASP E 152      88.177  53.840  22.113  1.00 17.78      E
ATOM   5563  N   TRP E 153      87.816  52.522  20.318  1.00 18.88      E
ATOM   5564  CA  TRP E 153      86.356  52.566  20.391  1.00 18.61      E
ATOM   5565  CB  TRP E 153      85.862  52.162  21.788  1.00 17.06      E
ATOM   5566  CG  TRP E 153      86.084  50.690  22.085  1.00 17.90      E
ATOM   5567  CD2 TRP E 153      85.165  49.612  21.830  1.00 18.84      E
ATOM   5568  CE2 TRP E 153      85.804  48.414  22.222  1.00 16.88      E
ATOM   5569  CE3 TRP E 153      83.862  49.544  21.308  1.00 18.29      E
ATOM   5570  CD1 TRP E 153      87.209  50.114  22.604  1.00 16.70      E
ATOM   5571  NE1 TRP E 153      87.049  48.747  22.688  1.00 17.49      E
ATOM   5572  CZ2 TRP E 153      85.189  47.164  22.109  1.00 16.54      E
ATOM   5573  CZ3 TRP E 153      83.250  48.303  21.196  1.00 17.19      E
ATOM   5574  CH2 TRP E 153      83.917  47.129  21.597  1.00 17.24      E
ATOM   5575  C   TRP E 153      85.732  53.887  19.975  1.00 18.97      E
ATOM   5576  O   TRP E 153      84.696  54.300  20.508  1.00 18.70      E
ATOM   5577  N   THR E 154      86.378  54.546  19.016  1.00 19.20      E
ATOM   5578  CA  THR E 154      85.876  55.794  18.444  1.00 19.92      E
ATOM   5579  CB  THR E 154      86.442  57.072  19.129  1.00 21.42      E
ATOM   5580  OG1 THR E 154      87.865  57.129  18.958  1.00 19.26      E
ATOM   5581  CG2 THR E 154      86.085  57.096  20.599  1.00 22.17      E
ATOM   5582  C   THR E 154      86.314  55.835  16.992  1.00 18.66      E
ATOM   5583  O   THR E 154      87.270  55.156  16.603  1.00 19.45      E
ATOM   5584  N   PHE E 155      85.609  56.626  16.193  1.00 18.54      E
ATOM   5585  CA  PHE E 155      85.940  56.784  14.779  1.00 19.04      E
ATOM   5586  CB  PHE E 155      84.821  56.252  13.882  1.00 20.71      E
ATOM   5587  CG  PHE E 155      84.524  54.794  14.060  1.00 23.03      E
ATOM   5588  CD1 PHE E 155      83.492  54.375  14.898  1.00 23.94      E
ATOM   5589  CD2 PHE E 155      85.255  53.837  13.365  1.00 23.32      E
ATOM   5590  CE1 PHE E 155      83.189  53.017  15.037  1.00 23.82      E
ATOM   5591  CE2 PHE E 155      84.962  52.476  13.497  1.00 24.46      E
ATOM   5592  CZ  PHE E 155      83.930  52.068  14.333  1.00 24.51      E
ATOM   5593  C   PHE E 155      86.109  58.265  14.459  1.00 19.30      E
ATOM   5594  O   PHE E 155      85.791  59.134  15.275  1.00 19.12      E
ATOM   5595  N   GLN E 156      86.613  58.550  13.265  1.00 17.46      E
ATOM   5596  CA  GLN E 156      86.748  59.924  12.824  1.00 17.87      E
ATOM   5597  CB  GLN E 156      88.081  60.546  13.264  1.00 19.74      E
ATOM   5598  CG  GLN E 156      89.330  59.948  12.640  1.00 19.80      E
ATOM   5599  CD  GLN E 156      90.551  60.785  12.950  1.00 21.46      E
ATOM   5600  OE1 GLN E 156      90.660  61.928  12.503  1.00 21.30      E
ATOM   5601  NE2 GLN E 156      91.469  60.230  13.734  1.00 21.38      E
ATOM   5602  C   GLN E 156      86.629  59.989  11.316  1.00 17.47      E
ATOM   5603  O   GLN E 156      86.856  58.999  10.616  1.00 17.25      E
ATOM   5604  N   ILE E 157      86.252  61.159  10.823  1.00 17.46      E
ATOM   5605  CA  ILE E 157      86.128  61.363   9.397  1.00 18.92      E
ATOM   5606  CB  ILE E 157      84.746  60.922   8.898  1.00 19.57      E
ATOM   5607  CG2 ILE E 157      83.659  61.774   9.545  1.00 15.09      E
ATOM   5608  CG1 ILE E 157      84.704  60.994   7.369  1.00 21.06      E
ATOM   5609  CD1 ILE E 157      83.541  60.218   6.756  1.00 22.57      E
ATOM   5610  C   ILE E 157      86.349  62.837   9.083  1.00 20.28      E
ATOM   5611  O   ILE E 157      85.887  63.712   9.808  1.00 20.70      E
ATOM   5612  N   LEU E 158      87.094  63.104   8.019  1.00 21.79      E
ATOM   5613  CA  LEU E 158      87.363  64.470   7.601  1.00 23.40      E
ATOM   5614  CB  LEU E 158      88.869  64.706   7.466  1.00 25.42      E
ATOM   5615  CG  LEU E 158      89.621  65.141   8.731  1.00 29.38      E
ATOM   5616  CD1 LEU E 158      89.384  64.154   9.864  1.00 27.98      E
ATOM   5617  CD2 LEU E 158      91.118  65.263   8.412  1.00 30.79      E
ATOM   5618  C   LEU E 158      86.664  64.738   6.271  1.00 23.62      E
ATOM   5619  O   LEU E 158      86.938  64.081   5.264  1.00 22.86      E
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ATOM	5620	N	VAL	E	159	85.747	65.702	6.290	1.00	22.98	E
ATOM	5621	CA	VAL	E	159	84.990	66.087	5.112	1.00	21.37	E
ATOM	5622	CB	VAL	E	159	83.476	66.104	5.417	1.00	20.53	E
ATOM	5623	CG1	VAL	E	159	82.684	66.407	4.149	1.00	14.20	E
ATOM	5624	CG2	VAL	E	159	83.058	64.756	6.002	1.00	15.86	E
ATOM	5625	C	VAL	E	159	85.468	67.469	4.710	1.00	22.21	E
ATOM	5626	O	VAL	E	159	85.253	68.444	5.423	1.00	22.87	E
ATOM	5627	N	MET	E	160	86.116	67.539	3.555	1.00	25.37	E
ATOM	5628	CA	MET	E	160	86.681	68.779	3.049	1.00	27.07	E
ATOM	5629	CB	MET	E	160	88.088	68.494	2.533	1.00	29.57	E
ATOM	5630	CG	MET	E	160	88.996	67.954	3.633	1.00	35.17	E
ATOM	5631	SD	MET	E	160	90.519	67.185	3.065	1.00	41.54	E
ATOM	5632	CE	MET	E	160	90.011	65.462	2.985	1.00	40.10	E
ATOM	5633	C	MET	E	160	85.848	69.466	1.979	1.00	28.93	E
ATOM	5634	O	MET	E	160	85.191	68.817	1.162	1.00	28.47	E
ATOM	5635	N	LEU	E	161	85.875	70.793	1.997	1.00	29.41	E
ATOM	5636	CA	LEU	E	161	85.123	71.574	1.031	1.00	31.54	E
ATOM	5637	CB	LEU	E	161	83.931	72.258	1.708	1.00	30.26	E
ATOM	5638	CG	LEU	E	161	83.183	73.297	0.860	1.00	30.70	E
ATOM	5639	CD1	LEU	E	161	82.515	72.618	-0.332	1.00	29.72	E
ATOM	5640	CD2	LEU	E	161	82.145	74.020	1.728	1.00	31.55	E
ATOM	5641	C	LEU	E	161	85.990	72.625	0.363	1.00	32.10	E
ATOM	5642	O	LEU	E	161	86.575	73.473	1.029	1.00	32.90	E
ATOM	5643	N	GLU	E	162	86.063	72.549	-0.960	1.00	35.11	E
ATOM	5644	CA	GLU	E	162	86.820	73.491	-1.771	1.00	38.40	E
ATOM	5645	CB	GLU	E	162	87.191	72.838	-3.105	1.00	42.17	E
ATOM	5646	CG	GLU	E	162	87.783	73.776	-4.148	1.00	48.21	E
ATOM	5647	CD	GLU	E	162	89.099	74.381	-3.711	1.00	52.47	E
ATOM	5648	OE1	GLU	E	162	90.006	73.611	-3.327	1.00	54.02	E
ATOM	5649	OE2	GLU	E	162	89.228	75.627	-3.759	1.00	56.21	E
ATOM	5650	C	GLU	E	162	85.892	74.673	-2.008	1.00	39.06	E
ATOM	5651	O	GLU	E	162	84.750	74.490	-2.422	1.00	39.27	E
ATOM	5652	N	MET	E	163	86.369	75.884	-1.747	1.00	40.73	E
ATOM	5653	CA	MET	E	163	85.520	77.049	-1.938	1.00	43.18	E
ATOM	5654	CB	MET	E	163	84.546	77.171	-0.761	1.00	45.15	E
ATOM	5655	CG	MET	E	163	85.155	76.900	0.612	1.00	47.55	E
ATOM	5656	SD	MET	E	163	86.318	78.152	1.185	1.00	52.18	E
ATOM	5657	CE	MET	E	163	85.186	79.345	1.941	1.00	50.37	E
ATOM	5658	C	MET	E	163	86.245	78.371	-2.151	1.00	43.77	E
ATOM	5659	O	MET	E	163	87.458	78.477	-1.953	1.00	41.87	E
ATOM	5660	N	THR	E	164	85.474	79.371	-2.571	1.00	45.83	E
ATOM	5661	CA	THR	E	164	85.981	80.714	-2.827	1.00	49.20	E
ATOM	5662	CB	THR	E	164	85.585	81.177	-4.241	1.00	50.11	E
ATOM	5663	OG1	THR	E	164	86.036	80.208	-5.199	1.00	49.28	E
ATOM	5664	CG2	THR	E	164	86.204	82.535	-4.559	1.00	50.19	E
ATOM	5665	C	THR	E	164	85.371	81.652	-1.785	1.00	51.14	E
ATOM	5666	O	THR	E	164	84.169	81.916	-1.802	1.00	50.64	E
ATOM	5667	N	PRO	E	165	86.198	82.170	-0.864	1.00	53.75	E
ATOM	5668	CD	PRO	E	165	87.667	82.057	-0.818	1.00	54.65	E
ATOM	5669	CA	PRO	E	165	85.719	83.072	0.185	1.00	56.16	E
ATOM	5670	CB	PRO	E	165	86.965	83.299	1.036	1.00	55.47	E
ATOM	5671	CG	PRO	E	165	88.057	83.262	0.019	1.00	55.93	E
ATOM	5672	C	PRO	E	165	85.098	84.381	-0.291	1.00	58.83	E
ATOM	5673	O	PRO	E	165	85.673	85.100	-1.112	1.00	58.35	E
ATOM	5674	N	GLN	E	166	83.912	84.666	0.239	1.00	61.77	E
ATOM	5675	CA	GLN	E	166	83.173	85.885	-0.065	1.00	63.96	E
ATOM	5676	CB	GLN	E	166	82.103	85.616	-1.123	1.00	64.28	E
ATOM	5677	CG	GLN	E	166	82.662	85.236	-2.481	1.00	66.42	E
ATOM	5678	CD	GLN	E	166	81.643	85.392	-3.596	1.00	67.38	E
ATOM	5679	OE1	GLN	E	166	81.937	85.124	-4.761	1.00	68.28	E
ATOM	5680	NE2	GLN	E	166	80.437	85.832	-3.244	1.00	66.50	E
ATOM	5681	C	GLN	E	166	82.521	86.396	1.223	1.00	65.40	E
ATOM	5682	O	GLN	E	166	81.974	85.614	2.007	1.00	65.65	E
ATOM	5683	N	ARG	E	167	82.589	87.707	1.444	1.00	65.80	E
ATOM	5684	CA	ARG	E	167	82.017	88.302	2.647	1.00	65.27	E
ATOM	5685	CB	ARG	E	167	82.353	89.795	2.706	1.00	67.87	E
ATOM	5686	CG	ARG	E	167	82.221	90.423	4.095	1.00	70.91	E
ATOM	5687	CD	ARG	E	167	83.216	89.813	5.085	1.00	73.36	E
ATOM	5688	NE	ARG	E	167	83.244	90.532	6.359	1.00	75.19	E
ATOM	5689	CZ	ARG	E	167	84.012	90.199	7.394	1.00	75.48	E
ATOM	5690	NH1	ARG	E	167	84.824	89.151	7.318	1.00	75.50	E
ATOM	5691	NH2	ARG	E	167	83.968	90.916	8.509	1.00	75.83	E
ATOM	5692	C	ARG	E	167	80.504	88.100	2.684	1.00	63.81	E
ATOM	5693	O	ARG	E	167	79.816	88.254	1.672	1.00	62.94	E

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ATOM   5694  N   GLY E 168      79.991  87.751   3.860  1.00 61.88      E
ATOM   5695  CA  GLY E 168      78.567  87.519   4.004  1.00 58.78      E
ATOM   5696  C   GLY E 168      78.243  86.036   3.959  1.00 57.24      E
ATOM   5697  O   GLY E 168      77.262  85.594   4.558  1.00 57.26      E
ATOM   5698  N   ASP E 169      79.066  85.263   3.249  1.00 54.67      E
ATOM   5699  CA  ASP E 169      78.849  83.823   3.140  1.00 52.07      E
ATOM   5700  CB  ASP E 169      79.799  83.186   2.116  1.00 52.03      E
ATOM   5701  CG  ASP E 169      79.329  83.359   0.683  1.00 52.57      E
ATOM   5702  OD1 ASP E 169      78.105  83.453   0.457  1.00 51.86      E
ATOM   5703  OD2 ASP E 169      80.188  83.376  -0.223  1.00 52.34      E
ATOM   5704  C   ASP E 169      79.027  83.096   4.463  1.00 49.54      E
ATOM   5705  O   ASP E 169      79.993  83.322   5.196  1.00 49.84      E
ATOM   5706  N   VAL E 170      78.082  82.214   4.758  1.00 46.54      E
ATOM   5707  CA  VAL E 170      78.136  81.418   5.970  1.00 43.15      E
ATOM   5708  CB  VAL E 170      76.903  81.669   6.871  1.00 42.70      E
ATOM   5709  CG1 VAL E 170      76.997  80.819   8.138  1.00 41.36      E
ATOM   5710  CG2 VAL E 170      76.814  83.146   7.227  1.00 41.14      E
ATOM   5711  C   VAL E 170      78.172  79.948   5.555  1.00 41.66      E
ATOM   5712  O   VAL E 170      77.216  79.432   4.972  1.00 40.25      E
ATOM   5713  N   TYR E 171      79.289  79.287   5.833  1.00 39.16      E
ATOM   5714  CA  TYR E 171      79.438  77.877   5.502  1.00 38.16      E
ATOM   5715  CB  TYR E 171      80.836  77.617   4.953  1.00 38.66      E
ATOM   5716  CG  TYR E 171      81.035  78.237   3.598  1.00 38.98      E
ATOM   5717  CD1 TYR E 171      80.740  77.522   2.440  1.00 38.79      E
ATOM   5718  CE1 TYR E 171      80.852  78.105   1.186  1.00 40.42      E
ATOM   5719  CD2 TYR E 171      81.451  79.561   3.471  1.00 38.62      E
ATOM   5720  CE2 TYR E 171      81.565  80.160   2.219  1.00 40.32      E
ATOM   5721  CZ  TYR E 171      81.262  79.424   1.079  1.00 41.26      E
ATOM   5722  OH  TYR E 171      81.350  80.004  -0.166  1.00 42.98      E
ATOM   5723  C   TYR E 171      79.206  77.076   6.764  1.00 37.15      E
ATOM   5724  O   TYR E 171      79.755  77.398   7.813  1.00 37.94      E
ATOM   5725  N   THR E 172      78.384  76.037   6.672  1.00 35.12      E
ATOM   5726  CA  THR E 172      78.091  75.229   7.842  1.00 34.42      E
ATOM   5727  CB  THR E 172      76.654  75.496   8.367  1.00 35.21      E
ATOM   5728  OG1 THR E 172      76.184  74.351   9.094  1.00 35.96      E
ATOM   5729  CG2 THR E 172      75.706  75.790   7.226  1.00 38.35      E
ATOM   5730  C   THR E 172      78.263  73.734   7.638  1.00 32.90      E
ATOM   5731  O   THR E 172      77.875  73.188   6.604  1.00 31.57      E
ATOM   5732  N   CYS E 173      78.858  73.090   8.643  1.00 30.59      E
ATOM   5733  CA  CYS E 173      79.078  71.646   8.640  1.00 29.35      E
ATOM   5734  C   CYS E 173      77.923  71.058   9.454  1.00 29.72      E
ATOM   5735  O   CYS E 173      77.771  71.337  10.645  1.00 28.89      E
ATOM   5736  CB  CYS E 173      80.424  71.299   9.287  1.00 27.53      E
ATOM   5737  SG  CYS E 173      80.875  69.541   9.133  1.00 27.81      E
ATOM   5738  N   HIS E 174      77.109  70.251   8.788  1.00 28.95      E
ATOM   5739  CA  HIS E 174      75.925  69.642   9.381  1.00 28.54      E
ATOM   5740  CB  HIS E 174      74.770  69.881   8.399  1.00 29.66      E
ATOM   5741  CG  HIS E 174      73.457  69.311   8.823  1.00 30.98      E
ATOM   5742  CD2 HIS E 174      72.367  69.899   9.369  1.00 31.91      E
ATOM   5743  ND1 HIS E 174      73.124  67.988   8.630  1.00 31.68      E
ATOM   5744  CE1 HIS E 174      71.883  67.785   9.034  1.00 33.26      E
ATOM   5745  NE2 HIS E 174      71.401  68.929   9.487  1.00 34.66      E
ATOM   5746  C   HIS E 174      76.173  68.151   9.650  1.00 27.83      E
ATOM   5747  O   HIS E 174      76.438  67.375   8.728  1.00 27.35      E
ATOM   5748  N   VAL E 175      76.085  67.753  10.917  1.00 26.27      E
ATOM   5749  CA  VAL E 175      76.349  66.365  11.284  1.00 26.34      E
ATOM   5750  CB  VAL E 175      77.584  66.281  12.215  1.00 23.90      E
ATOM   5751  CG1 VAL E 175      77.807  64.850  12.663  1.00 19.67      E
ATOM   5752  CG2 VAL E 175      78.818  66.813  11.491  1.00 19.93      E
ATOM   5753  C   VAL E 175      75.199  65.603  11.938  1.00 27.67      E
ATOM   5754  O   VAL E 175      74.587  66.064  12.904  1.00 26.77      E
ATOM   5755  N   GLU E 176      74.917  64.423  11.399  1.00 29.83      E
ATOM   5756  CA  GLU E 176      73.864  63.564  11.929  1.00 32.99      E
ATOM   5757  CB  GLU E 176      72.842  63.231  10.839  1.00 34.86      E
ATOM   5758  CG  GLU E 176      72.076  64.441  10.319  1.00 40.13      E
ATOM   5759  CD  GLU E 176      71.204  64.107   9.124  1.00 44.38      E
ATOM   5760  OE1 GLU E 176      70.292  63.265   9.269  1.00 46.31      E
ATOM   5761  OE2 GLU E 176      71.433  64.682   8.037  1.00 47.49      E
ATOM   5762  C   GLU E 176      74.526  62.289  12.445  1.00 32.24      E
ATOM   5763  O   GLU E 176      75.296  61.646  11.734  1.00 32.81      E
ATOM   5764  N   HIS E 177      74.220  61.934  13.686  1.00 31.66      E
ATOM   5765  CA  HIS E 177      74.803  60.761  14.311  1.00 30.50      E
ATOM   5766  CB  HIS E 177      76.147  61.161  14.927  1.00 29.59      E
ATOM   5767  CG  HIS E 177      76.871  60.034  15.582  1.00 28.23      E
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ATOM   5768  CD2 HIS E 177      77.752  59.134  15.086  1.00 28.22      E
ATOM   5769  ND1 HIS E 177      76.679  59.698  16.903  1.00 27.71      E
ATOM   5770  CE1 HIS E 177      77.410  58.636  17.194  1.00 29.83      E
ATOM   5771  NE2 HIS E 177      78.070  58.274  16.108  1.00 29.78      E
ATOM   5772  C   HIS E 177      73.854  60.195  15.373  1.00 30.09      E
ATOM   5773  O   HIS E 177      73.189  60.942  16.083  1.00 29.91      E
ATOM   5774  N   PRO E 178      73.781  58.862  15.496  1.00 31.45      E
ATOM   5775  CD  PRO E 178      74.485  57.842  14.697  1.00 31.00      E
ATOM   5776  CA  PRO E 178      72.898  58.226  16.481  1.00 31.44      E
ATOM   5777  CB  PRO E 178      73.370  56.779  16.467  1.00 30.89      E
ATOM   5778  CG  PRO E 178      73.704  56.578  15.028  1.00 31.16      E
ATOM   5779  C   PRO E 178      72.896  58.826  17.893  1.00 31.78      E
ATOM   5780  O   PRO E 178      71.903  58.727  18.611  1.00 32.84      E
ATOM   5781  N   SER E 179      73.996  59.448  18.292  1.00 30.31      E
ATOM   5782  CA  SER E 179      74.087  60.039  19.624  1.00 30.84      E
ATOM   5783  CB  SER E 179      75.552  60.155  20.038  1.00 29.11      E
ATOM   5784  OG  SER E 179      76.240  61.049  19.176  1.00 24.79      E
ATOM   5785  C   SER E 179      73.452  61.424  19.717  1.00 32.75      E
ATOM   5786  O   SER E 179      73.330  61.982  20.804  1.00 32.78      E
ATOM   5787  N   LEU E 180      73.046  61.981  18.583  1.00 35.18      E
ATOM   5788  CA  LEU E 180      72.477  63.317  18.578  1.00 37.31      E
ATOM   5789  CB  LEU E 180      73.098  64.132  17.448  1.00 35.77      E
ATOM   5790  CG  LEU E 180      74.610  64.337  17.528  1.00 36.46      E
ATOM   5791  CD1 LEU E 180      75.097  65.018  16.259  1.00 35.16      E
ATOM   5792  CD2 LEU E 180      74.948  65.167  18.752  1.00 34.58      E
ATOM   5793  C   LEU E 180      70.967  63.405  18.463  1.00 40.35      E
ATOM   5794  O   LEU E 180      70.386  63.003  17.456  1.00 40.67      E
ATOM   5795  N   GLN E 181      70.338  63.943  19.503  1.00 42.97      E
ATOM   5796  CA  GLN E 181      68.895  64.141  19.504  1.00 45.09      E
ATOM   5797  CB  GLN E 181      68.466  64.877  20.776  1.00 46.73      E
ATOM   5798  CG  GLN E 181      69.471  65.931  21.235  1.00 49.84      E
ATOM   5799  CD  GLN E 181      68.898  66.904  22.256  1.00 52.17      E
ATOM   5800  OE1 GLN E 181      68.074  67.760  21.920  1.00 52.91      E
ATOM   5801  NE2 GLN E 181      69.329  66.774  23.510  1.00 51.73      E
ATOM   5802  C   GLN E 181      68.607  65.002  18.277  1.00 45.26      E
ATOM   5803  O   GLN E 181      67.660  64.752  17.530  1.00 46.25      E
ATOM   5804  N   SER E 182      69.448  66.013  18.078  1.00 44.33      E
ATOM   5805  CA  SER E 182      69.335  66.923  16.943  1.00 42.52      E
ATOM   5806  CB  SER E 182      68.819  68.291  17.401  1.00 43.41      E
ATOM   5807  OG  SER E 182      69.658  68.853  18.396  1.00 43.07      E
ATOM   5808  C   SER E 182      70.725  67.068  16.337  1.00 41.70      E
ATOM   5809  O   SER E 182      71.726  66.955  17.040  1.00 39.94      E
ATOM   5810  N   PRO E 183      70.805  67.330  15.023  1.00 41.57      E
ATOM   5811  CD  PRO E 183      69.680  67.554  14.098  1.00 41.72      E
ATOM   5812  CA  PRO E 183      72.087  67.485  14.326  1.00 40.68      E
ATOM   5813  CB  PRO E 183      71.669  67.638  12.865  1.00 40.95      E
ATOM   5814  CG  PRO E 183      70.344  68.309  12.965  1.00 42.76      E
ATOM   5815  C   PRO E 183      72.988  68.628  14.790  1.00 38.81      E
ATOM   5816  O   PRO E 183      72.520  69.709  15.142  1.00 39.64      E
ATOM   5817  N   ILE E 184      74.291  68.370  14.785  1.00 37.31      E
ATOM   5818  CA  ILE E 184      75.270  69.368  15.177  1.00 34.30      E
ATOM   5819  CB  ILE E 184      76.570  68.728  15.699  1.00 33.43      E
ATOM   5820  CG2 ILE E 184      77.671  69.779  15.766  1.00 32.87      E
ATOM   5821  CG1 ILE E 184      76.337  68.112  17.076  1.00 33.53      E
ATOM   5822  CD1 ILE E 184      77.530  67.339  17.604  1.00 33.29      E
ATOM   5823  C   ILE E 184      75.625  70.216  13.974  1.00 33.68      E
ATOM   5824  O   ILE E 184      75.851  69.704  12.882  1.00 33.87      E
ATOM   5825  N   THR E 185      75.676  71.521  14.181  1.00 34.19      E
ATOM   5826  CA  THR E 185      76.018  72.431  13.111  1.00 33.39      E
ATOM   5827  CB  THR E 185      74.792  73.230  12.637  1.00 33.77      E
ATOM   5828  OG1 THR E 185      74.211  73.918  13.751  1.00 33.46      E
ATOM   5829  CG2 THR E 185      73.758  72.297  12.016  1.00 33.35      E
ATOM   5830  C   THR E 185      77.081  73.396  13.590  1.00 33.01      E
ATOM   5831  O   THR E 185      76.990  73.966  14.679  1.00 33.25      E
ATOM   5832  N   VAL E 186      78.106  73.552  12.770  1.00 32.85      E
ATOM   5833  CA  VAL E 186      79.197  74.453  13.067  1.00 32.84      E
ATOM   5834  CB  VAL E 186      80.503  73.684  13.300  1.00 31.58      E
ATOM   5835  CG1 VAL E 186      81.629  74.651  13.611  1.00 30.07      E
ATOM   5836  CG2 VAL E 186      80.316  72.697  14.441  1.00 30.84      E
ATOM   5837  C   VAL E 186      79.329  75.317  11.836  1.00 34.14      E
ATOM   5838  O   VAL E 186      79.403  74.812  10.719  1.00 33.50      E
ATOM   5839  N   GLU E 187      79.329  76.626  12.029  1.00 38.05      E
ATOM   5840  CA  GLU E 187      79.453  77.522  10.898  1.00 40.60      E
ATOM   5841  CB  GLU E 187      78.358  78.592  10.934  1.00 43.36      E
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ATOM   5842  CG  GLU E 187      78.426  79.531  12.121  1.00 47.46      E
ATOM   5843  CD  GLU E 187      77.657  80.822  11.886  1.00 51.49      E
ATOM   5844  OE1 GLU E 187      76.452  80.752  11.551  1.00 52.89      E
ATOM   5845  OE2 GLU E 187      78.262  81.908  12.039  1.00 53.48      E
ATOM   5846  C   GLU E 187      80.819  78.182  10.877  1.00 40.49      E
ATOM   5847  O   GLU E 187      81.496  78.285  11.901  1.00 40.26      E
ATOM   5848  N   TRP E 188      81.221  78.610   9.688  1.00 41.52      E
ATOM   5849  CA  TRP E 188      82.492  79.284   9.488  1.00 43.59      E
ATOM   5850  CB  TRP E 188      83.498  78.337   8.834  1.00 41.24      E
ATOM   5851  CG  TRP E 188      84.852  78.942   8.675  1.00 41.34      E
ATOM   5852  CD2 TRP E 188      85.327  79.672   7.543  1.00 40.23      E
ATOM   5853  CE2 TRP E 188      86.642  80.090   7.838  1.00 41.87      E
ATOM   5854  CE3 TRP E 188      84.768  80.015   6.305  1.00 40.90      E
ATOM   5855  CD1 TRP E 188      85.867  78.945   9.588  1.00 41.88      E
ATOM   5856  NE1 TRP E 188      86.947  79.632   9.093  1.00 41.99      E
ATOM   5857  CZ2 TRP E 188      87.411  80.835   6.938  1.00 42.93      E
ATOM   5858  CZ3 TRP E 188      85.531  80.757   5.408  1.00 42.58      E
ATOM   5859  CH2 TRP E 188      86.839  81.159   5.731  1.00 43.65      E
ATOM   5860  C   TRP E 188      82.198  80.467   8.566  1.00 46.04      E
ATOM   5861  O   TRP E 188      81.335  80.374   7.688  1.00 45.30      E
ATOM   5862  N   ARG E 189      82.899  81.579   8.765  1.00 50.26      E
ATOM   5863  CA  ARG E 189      82.673  82.761   7.936  1.00 54.31      E
ATOM   5864  CB  ARG E 189      81.980  83.855   8.755  1.00 56.19      E
ATOM   5865  CG  ARG E 189      82.820  84.460   9.880  1.00 59.58      E
ATOM   5866  CD  ARG E 189      83.030  83.499  11.045  1.00 63.51      E
ATOM   5867  NE  ARG E 189      83.580  84.180  12.218  1.00 66.73      E
ATOM   5868  CZ  ARG E 189      84.771  84.771  12.255  1.00 68.44      E
ATOM   5869  NH1 ARG E 189      85.553  84.766  11.183  1.00 69.41      E
ATOM   5870  NH2 ARG E 189      85.178  85.378  13.363  1.00 70.13      E
ATOM   5871  C   ARG E 189      83.950  83.322   7.313  1.00 55.74      E
ATOM   5872  O   ARG E 189      85.043  83.182   7.866  1.00 56.16      E
ATOM   5873  N   ALA E 190      83.796  83.962   6.156  1.00 58.53      E
ATOM   5874  CA  ALA E 190      84.920  84.557   5.435  1.00 60.08      E
ATOM   5875  CB  ALA E 190      84.550  84.734   3.964  1.00 59.97      E
ATOM   5876  C   ALA E 190      85.335  85.905   6.036  1.00 61.01      E
ATOM   5877  O   ALA E 190      84.654  86.378   6.971  1.00 62.25      E
ATOM   5878  OXT ALA E 190      86.338  86.479   5.558  1.00 61.85      E
ATOM   5879  C   LEU F   1      78.718  38.094  33.366  1.00 32.03      F
ATOM   5880  O   LEU F   1      79.818  38.571  33.658  1.00 30.77      F
ATOM   5881  N   LEU F   1      76.219  38.100  33.307  1.00 33.21      F
ATOM   5882  CA  LEU F   1      77.432  38.678  33.953  1.00 32.59      F
ATOM   5883  N   GLN F   2      78.578  37.069  32.531  1.00 30.39      F
ATOM   5884  CA  GLN F   2      79.744  36.436  31.936  1.00 28.84      F
ATOM   5885  C   GLN F   2      79.609  36.081  30.462  1.00 27.93      F
ATOM   5886  O   GLN F   2      78.741  35.308  30.067  1.00 27.68      F
ATOM   5887  N   PRO F   3      80.463  36.663  29.619  1.00 28.02      F
ATOM   5888  CD  PRO F   3      81.461  37.720  29.856  1.00 28.68      F
ATOM   5889  CA  PRO F   3      80.370  36.332  28.198  1.00 27.76      F
ATOM   5890  CB  PRO F   3      81.363  37.298  27.552  1.00 28.01      F
ATOM   5891  CG  PRO F   3      82.353  37.575  28.660  1.00 28.41      F
ATOM   5892  C   PRO F   3      80.774  34.872  28.030  1.00 27.24      F
ATOM   5893  O   PRO F   3      81.698  34.406  28.698  1.00 27.18      F
ATOM   5894  N   PHE F   4      80.082  34.144  27.159  1.00 25.22      F
ATOM   5895  CA  PHE F   4      80.409  32.738  26.943  1.00 24.75      F
ATOM   5896  CB  PHE F   4      79.135  31.905  26.849  1.00 25.85      F
ATOM   5897  CG  PHE F   4      79.272  30.539  27.446  1.00 31.58      F
ATOM   5898  CD1 PHE F   4      79.435  30.384  28.823  1.00 33.24      F
ATOM   5899  CD2 PHE F   4      79.241  29.404  26.639  1.00 32.15      F
ATOM   5900  CE1 PHE F   4      79.561  29.116  29.386  1.00 33.28      F
ATOM   5901  CE2 PHE F   4      79.364  28.136  27.187  1.00 33.29      F
ATOM   5902  CZ  PHE F   4      79.524  27.989  28.565  1.00 34.18      F
ATOM   5903  C   PHE F   4      81.227  32.588  25.664  1.00 22.43      F
ATOM   5904  O   PHE F   4      80.759  32.919  24.586  1.00 24.59      F
ATOM   5905  N   PRO F   5      82.460  32.065  25.771  1.00 22.79      F
ATOM   5906  CD  PRO F   5      83.191  31.820  27.029  1.00 21.18      F
ATOM   5907  CA  PRO F   5      83.349  31.882  24.618  1.00 21.18      F
ATOM   5908  CB  PRO F   5      84.715  32.140  25.218  1.00 20.19      F
ATOM   5909  CG  PRO F   5      84.587  31.450  26.544  1.00 20.99      F
ATOM   5910  C   PRO F   5      83.291  30.524  23.949  1.00 20.28      F
ATOM   5911  O   PRO F   5      82.796  29.559  24.521  1.00 19.48      F
ATOM   5912  N   GLN F   6      83.818  30.456  22.730  1.00 21.24      F
ATOM   5913  CA  GLN F   6      83.848  29.200  21.983  1.00 19.98      F
ATOM   5914  CB  GLN F   6      83.665  29.450  20.484  1.00 18.71      F
ATOM   5915  CG  GLN F   6      82.312  30.010  20.048  1.00 18.35      F
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ATOM   5916  CD  GLN F   6      82.255  30.247  18.537  1.00 22.29      F
ATOM   5917  OE1 GLN F   6      82.612  29.368  17.740  1.00 21.53      F
ATOM   5918  NE2 GLN F   6      81.802  31.429  18.138  1.00 20.02      F
ATOM   5919  C   GLN F   6      85.213  28.548  22.213  1.00 20.47      F
ATOM   5920  O   GLN F   6      86.243  29.204  22.099  1.00 18.48      F
ATOM   5921  N   PRO F   7      85.229  27.256  22.575  1.00 21.16      F
ATOM   5922  CD  PRO F   7      84.071  26.494  23.084  1.00 20.59      F
ATOM   5923  CA  PRO F   7      86.471  26.520  22.813  1.00 21.61      F
ATOM   5924  CB  PRO F   7      86.037  25.444  23.797  1.00 23.40      F
ATOM   5925  CG  PRO F   7      84.649  25.123  23.311  1.00 19.67      F
ATOM   5926  C   PRO F   7      86.996  25.897  21.521  1.00 23.00      F
ATOM   5927  O   PRO F   7      86.219  25.601  20.610  1.00 23.19      F
ATOM   5928  N   GLU F   8      88.312  25.714  21.438  1.00 21.78      F
ATOM   5929  CA  GLU F   8      88.904  25.068  20.279  1.00 23.12      F
ATOM   5930  CB  GLU F   8      90.297  25.632  19.968  1.00 24.50      F
ATOM   5931  CG  GLU F   8      91.086  24.834  18.915  1.00 26.16      F
ATOM   5932  CD  GLU F   8      90.360  24.697  17.576  1.00 31.57      F
ATOM   5933  OE1 GLU F   8      89.250  24.114  17.540  1.00 33.65      F
ATOM   5934  OE2 GLU F   8      90.903  25.171  16.555  1.00 30.66      F
ATOM   5935  C   GLU F   8      89.005  23.608  20.680  1.00 22.95      F
ATOM   5936  O   GLU F   8      89.289  23.292  21.833  1.00 23.25      F
ATOM   5937  N   LEU F   9      88.756  22.712  19.741  1.00 24.74      F
ATOM   5938  CA  LEU F   9      88.815  21.292  20.047  1.00 27.30      F
ATOM   5939  CB  LEU F   9      87.729  20.549  19.272  1.00 25.73      F
ATOM   5940  CG  LEU F   9      86.302  21.051  19.494  1.00 29.20      F
ATOM   5941  CD1 LEU F   9      85.338  20.235  18.645  1.00 28.18      F
ATOM   5942  CD2 LEU F   9      85.938  20.943  20.967  1.00 29.61      F
ATOM   5943  C   LEU F   9      90.178  20.707  19.712  1.00 28.17      F
ATOM   5944  O   LEU F   9      90.715  20.940  18.631  1.00 26.94      F
ATOM   5945  N   PRO F  10      90.765  19.947  20.647  1.00 30.38      F
ATOM   5946  CD  PRO F  10      90.365  19.707  22.044  1.00 30.47      F
ATOM   5947  CA  PRO F  10      92.076  19.355  20.370  1.00 34.24      F
ATOM   5948  CB  PRO F  10      92.556  18.915  21.752  1.00 32.97      F
ATOM   5949  CG  PRO F  10      91.282  18.561  22.448  1.00 31.98      F
ATOM   5950  C   PRO F  10      91.985  18.188  19.393  1.00 35.94      F
ATOM   5951  O   PRO F  10      90.993  17.461  19.376  1.00 38.70      F
ATOM   5952  N   TYR F  11      93.016  18.031  18.570  1.00 37.40      F
ATOM   5953  CA  TYR F  11      93.075  16.936  17.609  1.00 38.84      F
ATOM   5954  CB  TYR F  11      92.126  17.176  16.434  1.00 38.73      F
ATOM   5955  CG  TYR F  11      92.017  15.969  15.539  1.00 39.56      F
ATOM   5956  CD1 TYR F  11      91.294  14.848  15.942  1.00 39.88      F
ATOM   5957  CE1 TYR F  11      91.254  13.697  15.164  1.00 39.49      F
ATOM   5958  CD2 TYR F  11      92.698  15.913  14.327  1.00 39.73      F
ATOM   5959  CE2 TYR F  11      92.668  14.765  13.537  1.00 40.44      F
ATOM   5960  CZ  TYR F  11      91.945  13.659  13.964  1.00 40.29      F
ATOM   5961  OH  TYR F  11      91.921  12.514  13.200  1.00 40.03      F
ATOM   5962  C   TYR F  11      94.498  16.781  17.077  1.00 40.23      F
ATOM   5963  O   TYR F  11      95.102  15.708  17.300  1.00 41.88      F
ATOM   5964  OXT TYR F  11      94.988  17.742  16.443  1.00 40.58      F
ATOM   5965  O   HOH H   1      37.560  11.197  17.272  1.00 17.47      H
ATOM   5966  O   HOH H   2      81.295  26.543  20.573  1.00 15.95      H
ATOM   5967  O   HOH H   3      43.884  23.627  16.726  1.00 14.83      H
ATOM   5968  O   HOH H   4      89.230  61.015  16.512  1.00 19.10      H
ATOM   5969  O   HOH H   5      92.090  40.877  18.768  1.00 15.59      H
ATOM   5970  O   HOH H   6      57.686  14.054   4.407  1.00 20.02      H
ATOM   5971  O   HOH H   7      87.607  31.423  22.217  1.00 11.29      H
ATOM   5972  O   HOH H   8      31.815  41.479   5.673  1.00 23.91      H
ATOM   5973  O   HOH H   9      46.112   3.594  18.714  1.00 20.15      H
ATOM   5974  O   HOH H  10      86.724  67.786  15.551  1.00 22.39      H
ATOM   5975  O   HOH H  11      42.599  14.833  17.213  1.00 16.12      H
ATOM   5976  O   HOH H  12      93.679  37.081  11.737  1.00 15.03      H
ATOM   5977  O   HOH H  13      50.288   0.581  25.262  1.00 13.69      H
ATOM   5978  O   HOH H  14      96.256  37.853  25.291  1.00 12.90      H
ATOM   5979  O   HOH H  15      90.711  30.936  37.307  1.00 31.88      H
ATOM   5980  O   HOH H  16      80.045  39.846  25.144  1.00 33.11      H
ATOM   5981  O   HOH H  17      80.708  45.662  11.514  1.00 41.56      H
ATOM   5982  O   HOH H  18      42.215   0.119  11.193  1.00 15.83      H
ATOM   5983  O   HOH H  19      95.828  50.485   5.930  1.00 27.67      H
ATOM   5984  O   HOH H  20      48.809  37.278  14.928  1.00 36.10      H
ATOM   5985  O   HOH H  21      47.553  -0.403  11.823  1.00 14.62      H
ATOM   5986  O   HOH H  22      94.554  76.132  19.122  1.00 83.80      H
ATOM   5987  O   HOH H  23      83.295  48.460  17.328  1.00 17.64      H
ATOM   5988  O   HOH H  24      88.976  42.102   7.818  1.00 26.11      H
ATOM   5989  O   HOH H  25      99.041  56.322  24.823  1.00 24.86      H
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ATOM	5990	O	HOH	H	26	47.640	0.006	20.312	1.00	18.95	H
ATOM	5991	O	HOH	H	27	46.987	29.359	11.916	1.00	21.84	H
ATOM	5992	O	HOH	H	28	88.283	37.229	11.279	1.00	21.34	H
ATOM	5993	O	HOH	H	29	49.878	-9.043	36.424	1.00	32.47	H
ATOM	5994	O	HOH	H	30	82.777	39.366	24.935	1.00	24.79	H
ATOM	5995	O	HOH	H	31	72.919	25.704	15.123	1.00	18.09	H
ATOM	5996	O	HOH	H	32	86.830	25.153	13.558	1.00	24.14	H
ATOM	5997	O	HOH	H	33	43.152	5.651	13.774	1.00	19.96	H
ATOM	5998	O	HOH	H	34	100.654	27.732	5.367	1.00	34.73	H
ATOM	5999	O	HOH	H	35	48.550	32.122	26.894	1.00	20.17	H
ATOM	6000	O	HOH	H	36	78.728	36.578	6.822	1.00	32.92	H
ATOM	6001	O	HOH	H	37	89.361	11.980	24.953	1.00	51.75	H
ATOM	6002	O	HOH	H	38	90.411	24.657	31.926	1.00	28.29	H
ATOM	6003	O	HOH	H	39	80.690	24.233	8.462	1.00	22.43	H
ATOM	6004	O	HOH	H	40	83.769	65.973	-5.489	1.00	21.06	H
ATOM	6005	O	HOH	H	41	87.710	34.692	7.008	1.00	22.47	H
ATOM	6006	O	HOH	H	42	38.997	4.521	15.299	1.00	25.36	H
ATOM	6007	O	HOH	H	43	94.223	46.644	24.674	1.00	32.67	H
ATOM	6008	O	HOH	H	44	35.150	15.757	26.294	1.00	29.03	H
ATOM	6009	O	HOH	H	45	85.059	24.652	18.280	1.00	25.63	H
ATOM	6010	O	HOH	H	46	67.739	6.320	18.991	1.00	43.67	H
ATOM	6011	O	HOH	H	47	92.376	63.977	12.866	1.00	32.46	H
ATOM	6012	O	HOH	H	48	91.526	49.479	22.504	1.00	29.70	H
ATOM	6013	O	HOH	H	49	56.333	-2.088	24.733	1.00	28.53	H
ATOM	6014	O	HOH	H	50	100.482	53.937	3.942	1.00	52.26	H
ATOM	6015	O	HOH	H	51	48.244	18.753	22.918	1.00	44.88	H
ATOM	6016	O	HOH	H	52	32.577	-0.558	6.769	1.00	33.70	H
ATOM	6017	O	HOH	H	53	47.162	26.527	12.972	1.00	29.72	H
ATOM	6018	O	HOH	H	54	98.621	66.834	5.100	1.00	52.20	H
ATOM	6019	O	HOH	H	55	88.106	52.134	17.293	1.00	21.13	H
ATOM	6020	O	HOH	H	56	59.655	31.307	17.069	1.00	25.89	H
ATOM	6021	O	HOH	H	57	73.562	24.323	12.997	1.00	23.51	H
ATOM	6022	O	HOH	H	58	43.748	32.725	20.165	1.00	52.72	H
ATOM	6023	O	HOH	H	59	26.392	-7.072	11.400	1.00	26.20	H
ATOM	6024	O	HOH	H	60	83.955	73.751	16.805	1.00	18.19	H
ATOM	6025	O	HOH	H	61	46.229	-19.766	10.675	1.00	28.79	H
ATOM	6026	O	HOH	H	62	52.436	38.720	16.630	1.00	28.35	H
ATOM	6027	O	HOH	H	63	60.555	9.392	19.914	1.00	28.43	H
ATOM	6028	O	HOH	H	64	62.105	2.197	11.948	1.00	33.33	H
ATOM	6029	O	HOH	H	65	40.514	-12.059	13.631	1.00	21.32	H
ATOM	6030	O	HOH	H	66	65.876	23.972	14.155	1.00	21.11	H
ATOM	6031	O	HOH	H	67	84.702	18.013	5.666	1.00	19.12	H
ATOM	6032	O	HOH	H	68	64.715	11.655	15.936	1.00	28.72	H
ATOM	6033	O	HOH	H	69	85.418	74.949	14.820	1.00	27.90	H
ATOM	6034	O	HOH	H	70	77.974	25.419	23.038	1.00	42.15	H
ATOM	6035	O	HOH	H	71	65.805	8.484	20.741	1.00	44.01	H
ATOM	6036	O	HOH	H	72	51.276	26.045	10.800	1.00	28.36	H
ATOM	6037	O	HOH	H	73	65.226	22.195	25.831	1.00	36.11	H
ATOM	6038	O	HOH	H	74	101.567	46.068	1.107	1.00	53.81	H
ATOM	6039	O	HOH	H	75	32.615	31.234	1.517	1.00	21.03	H
ATOM	6040	O	HOH	H	76	42.100	-0.001	13.802	1.00	23.44	H
ATOM	6041	O	HOH	H	77	35.124	40.614	14.668	1.00	27.61	H
ATOM	6042	O	HOH	H	78	92.548	46.813	7.595	1.00	31.64	H
ATOM	6043	O	HOH	H	79	34.670	13.941	14.778	1.00	22.87	H
ATOM	6044	O	HOH	H	80	98.527	27.671	28.270	1.00	42.07	H
ATOM	6045	O	HOH	H	81	30.588	36.032	16.540	1.00	37.52	H
ATOM	6046	O	HOH	H	82	89.345	42.957	13.940	1.00	22.73	H
ATOM	6047	O	HOH	H	83	92.891	18.085	10.698	1.00	32.35	H
ATOM	6048	O	HOH	H	84	90.050	48.556	16.519	1.00	27.30	H
ATOM	6049	O	HOH	H	85	110.812	49.549	15.813	1.00	27.68	H
ATOM	6050	O	HOH	H	86	75.872	21.668	2.499	1.00	39.37	H
ATOM	6051	O	HOH	H	87	52.567	14.010	7.270	1.00	34.20	H
ATOM	6052	O	HOH	H	88	69.016	32.569	12.651	1.00	36.96	H
ATOM	6053	O	HOH	H	89	96.637	25.945	31.742	1.00	37.26	H
ATOM	6054	O	HOH	H	90	34.496	-12.998	8.560	1.00	22.82	H
ATOM	6055	O	HOH	H	91	113.021	48.469	17.945	1.00	47.59	H
ATOM	6056	O	HOH	H	92	34.266	25.052	23.930	1.00	31.02	H
ATOM	6057	O	HOH	H	93	51.464	31.946	19.300	1.00	15.75	H
ATOM	6058	O	HOH	H	94	80.054	50.912	15.041	1.00	25.94	H
ATOM	6059	O	HOH	H	95	40.413	-13.432	16.393	1.00	39.73	H
ATOM	6060	O	HOH	H	96	57.701	4.191	7.708	1.00	25.27	H
ATOM	6061	O	HOH	H	97	80.838	52.853	26.436	1.00	27.67	H
ATOM	6062	O	HOH	H	98	58.205	13.023	20.294	1.00	27.57	H
ATOM	6063	O	HOH	H	99	41.832	30.497	15.601	1.00	27.32	H

ATOM	6064	O	HOH H 100	72.807	29.880	11.618	1.00	28.05		H
ATOM	6065	O	HOH H 101	48.499	5.079	4.053	1.00	38.72		H
ATOM	6066	O	HOH H 102	100.679	66.408	9.019	1.00	36.21		H
ATOM	6067	O	HOH H 103	45.023	41.442	11.747	1.00	42.72		H
ATOM	6068	O	HOH H 104	83.296	63.483	-2.738	1.00	27.46		H
ATOM	6069	O	HOH H 105	85.067	29.522	34.732	1.00	35.62		H
ATOM	6070	O	HOH H 106	72.272	53.390	15.314	1.00	38.75		H
ATOM	6071	O	HOH H 107	80.600	27.688	5.225	1.00	26.04		H
ATOM	6072	O	HOH H 108	71.251	18.567	16.503	1.00	29.08		H
ATOM	6073	O	HOH H 109	88.274	65.356	19.510	1.00	26.70		H
ATOM	6074	O	HOH H 110	43.031	4.836	7.813	1.00	38.59		H
ATOM	6075	O	HOH H 111	101.304	35.384	4.755	1.00	43.53		H
ATOM	6076	O	HOH H 112	44.554	10.725	19.619	1.00	21.38		H
ATOM	6077	O	HOH H 113	115.506	34.478	5.615	1.00	46.62		H
ATOM	6078	O	HOH H 114	36.124	-25.634	9.802	1.00	42.69		H
ATOM	6079	O	HOH H 115	34.494	-33.304	20.170	1.00	61.12		H
ATOM	6080	O	HOH H 116	38.663	26.161	-2.715	1.00	31.39		H
ATOM	6081	O	HOH H 117	105.197	41.384	18.739	1.00	38.53		H
ATOM	6082	O	HOH H 118	38.437	-12.372	18.422	1.00	32.47		H
ATOM	6083	O	HOH H 119	45.430	15.732	9.556	1.00	32.39		H
ATOM	6084	O	HOH H 120	70.475	9.817	-1.029	1.00	53.38		H
ATOM	6085	O	HOH H 121	87.895	64.540	22.445	1.00	47.01		H
ATOM	6086	O	HOH H 122	39.337	36.650	16.644	1.00	25.21		H
ATOM	6087	O	HOH H 123	104.091	50.783	20.204	1.00	31.31		H
ATOM	6088	O	HOH H 124	72.528	13.825	20.909	1.00	62.81		H
ATOM	6089	O	HOH H 125	55.353	-5.411	5.747	1.00	25.46		H
ATOM	6090	O	HOH H 126	97.848	63.704	25.177	1.00	27.84		H
ATOM	6091	O	HOH H 127	89.799	75.117	14.074	1.00	49.56		H
ATOM	6092	O	HOH H 128	96.226	35.565	0.211	1.00	40.25		H
ATOM	6093	O	HOH H 129	25.125	-15.445	19.161	1.00	37.04		H
ATOM	6094	O	HOH H 130	90.627	52.974	9.649	1.00	22.70		H
ATOM	6095	O	HOH H 131	114.398	29.773	11.425	1.00	42.36		H
ATOM	6096	O	HOH H 132	69.810	89.608	-0.164	1.00	53.48		H
ATOM	6097	O	HOH H 133	99.069	30.421	4.728	1.00	31.21		H
ATOM	6098	O	HOH H 134	37.335	49.129	5.746	1.00	43.90		H
ATOM	6099	O	HOH H 135	77.753	73.821	17.600	1.00	50.43		H
ATOM	6100	O	HOH H 136	44.853	33.208	11.090	1.00	21.26		H
ATOM	6101	O	HOH H 137	88.697	80.608	-4.574	1.00	49.42		H
ATOM	6102	O	HOH H 138	62.018	-6.136	9.010	1.00	30.19		H
ATOM	6103	O	HOH H 139	35.964	-5.810	5.494	1.00	45.47		H
ATOM	6104	O	HOH H 140	73.968	65.480	8.013	1.00	43.93		H
ATOM	6105	O	HOH H 141	78.361	66.868	24.455	1.00	57.76		H
ATOM	6106	O	HOH H 142	53.527	3.199	22.332	1.00	32.95		H
ATOM	6107	O	HOH H 143	56.018	-6.530	25.205	1.00	42.75		H
ATOM	6108	O	HOH H 144	82.930	52.617	28.345	1.00	32.35		H
ATOM	6109	O	HOH H 145	28.607	-21.313	24.210	1.00	48.87		H
ATOM	6110	O	HOH H 146	86.079	41.197	35.698	1.00	36.97		H
ATOM	6111	O	HOH H 147	35.017	8.399	11.516	1.00	32.21		H
ATOM	6112	O	HOH H 148	25.864	-19.905	17.166	1.00	41.53		H
ATOM	6113	O	HOH H 149	55.504	20.659	6.959	1.00	36.63		H
ATOM	6114	O	HOH H 150	106.046	47.260	19.571	1.00	30.60		H
ATOM	6115	O	HOH H 151	108.769	26.147	5.447	1.00	48.82		H
ATOM	6116	O	HOH H 152	38.689	17.576	4.331	1.00	39.07		H
ATOM	6117	O	HOH H 153	97.787	62.580	8.740	1.00	29.61		H
ATOM	6118	O	HOH H 154	59.501	-12.817	20.769	1.00	50.36		H
ATOM	6119	O	HOH H 155	47.887	40.072	-4.641	1.00	51.05		H
ATOM	6120	O	HOH H 156	60.057	16.564	27.477	1.00	40.66		H
ATOM	6121	O	HOH H 157	67.048	27.841	20.873	1.00	39.66		H
ATOM	6122	O	HOH H 158	37.028	32.932	18.669	1.00	37.23		H
ATOM	6123	O	HOH H 159	121.780	18.693	-3.076	1.00	46.64		H
ATOM	6124	O	HOH H 160	39.196	18.091	27.271	1.00	29.99		H
ATOM	6125	O	HOH H 161	113.285	44.237	19.561	1.00	39.04		H
ATOM	6126	O	HOH H 162	43.379	27.754	19.370	1.00	27.58		H
ATOM	6127	O	HOH H 163	91.636	66.903	11.885	1.00	54.73		H
ATOM	6128	O	HOH H 164	113.381	46.844	20.020	1.00	54.22		H
ATOM	6129	O	HOH H 165	79.238	62.082	24.112	1.00	36.07		H
ATOM	6130	O	HOH H 166	27.985	32.355	18.424	1.00	36.25		H
ATOM	6131	O	HOH H 167	34.709	-10.661	20.615	1.00	9.89		H
ATOM	6132	O	HOH H 168	93.577	37.339	20.182	1.00	14.03		H
ATOM	6133	O	HOH H 169	97.912	51.662	7.309	1.00	24.22		H
ATOM	6134	O	HOH H 170	69.616	4.375	18.521	1.00	38.01		H
ATOM	6135	O	HOH H 171	80.870	25.194	6.002	1.00	21.84		H
ATOM	6136	O	HOH H 172	50.564	12.887	5.906	1.00	32.25		H
ATOM	6137	O	HOH H 173	88.207	37.288	13.919	1.00	19.68		H

ATOM	6138	O	HOH H 174	93.800	47.651	27.174	1.00	41.65	H
ATOM	6139	O	HOH H 175	52.842	0.304	25.210	1.00	28.07	H
ATOM	6140	O	HOH H 176	66.457	4.742	14.051	1.00	28.64	H
ATOM	6141	O	HOH H 177	36.948	12.416	15.109	1.00	28.66	H
ATOM	6142	O	HOH H 178	103.292	41.793	7.607	1.00	28.51	H
ATOM	6143	O	HOH H 179	86.476	36.035	9.339	1.00	27.43	H
ATOM	6144	O	HOH H 180	82.262	41.159	26.845	1.00	24.13	H
ATOM	6145	O	HOH H 181	32.348	15.030	26.400	1.00	30.06	H
ATOM	6146	O	HOH H 182	69.916	30.709	14.482	1.00	42.81	H
ATOM	6147	O	HOH H 183	48.060	10.142	26.751	1.00	49.12	H
ATOM	6148	O	HOH H 184	45.863	-9.131	37.252	1.00	43.70	H
ATOM	6149	O	HOH H 185	32.095	-3.806	34.251	1.00	41.46	H
ATOM	6150	O	HOH H 186	108.258	31.975	8.914	1.00	33.62	H
ATOM	6151	O	HOH H 187	99.465	64.293	8.210	1.00	54.43	H
ATOM	6152	O	HOH H 188	74.677	30.785	27.841	1.00	28.20	H
ATOM	6153	O	HOH H 189	44.953	0.968	35.892	1.00	32.25	H
ATOM	6154	O	HOH H 190	88.523	27.792	36.268	1.00	30.83	H
ATOM	6155	O	HOH H 191	37.736	8.611	11.729	1.00	38.92	H
ATOM	6156	O	HOH H 192	35.988	45.178	12.964	1.00	33.85	H
ATOM	6157	O	HOH H 193	77.222	68.027	1.401	1.00	27.02	H
ATOM	6158	O	HOH H 194	63.326	-8.764	15.926	1.00	38.46	H
ATOM	6159	O	HOH H 195	109.635	61.489	27.644	1.00	52.79	H
ATOM	6160	O	HOH H 196	101.299	67.528	11.319	1.00	38.92	H
ATOM	6161	O	HOH H 197	77.295	56.116	25.768	1.00	36.83	H
ATOM	6162	O	HOH H 198	81.538	22.288	0.320	1.00	47.08	H
ATOM	6163	O	HOH H 199	55.989	3.900	0.756	1.00	46.35	H
ATOM	6164	O	HOH H 200	66.200	40.514	17.513	1.00	43.54	H
ATOM	6165	O	HOH H 201	40.497	-1.046	9.238	1.00	27.84	H
ATOM	6166	O	HOH H 202	57.171	27.504	8.258	1.00	52.74	H
ATOM	6167	O	HOH H 203	44.592	-6.430	37.531	1.00	37.55	H
ATOM	6168	O	HOH H 204	26.892	-1.642	9.494	1.00	55.58	H
ATOM	6169	O	HOH H 205	83.350	58.389	2.759	1.00	46.24	H
ATOM	6170	O	HOH H 206	112.353	45.284	9.770	1.00	30.99	H
ATOM	6171	O	HOH H 207	86.315	23.927	16.100	1.00	41.36	H
ATOM	6172	O	HOH H 208	67.053	45.396	12.396	1.00	31.02	H
ATOM	6173	O	HOH H 209	111.609	60.418	8.362	1.00	52.01	H
ATOM	6174	O	HOH H 210	91.254	47.553	32.752	1.00	41.71	H
ATOM	6175	O	HOH H 211	88.489	39.944	11.117	1.00	34.00	H
ATOM	6176	O	HOH H 212	104.972	69.233	16.415	1.00	37.26	H
ATOM	6177	O	HOH H 213	23.462	39.893	6.692	1.00	56.45	H
ATOM	6178	O	HOH H 214	84.114	54.447	-1.718	1.00	42.58	H
ATOM	6179	O	HOH H 215	105.045	66.068	22.775	1.00	24.48	H
ATOM	6180	O	HOH H 216	85.378	52.388	17.025	1.00	37.91	H
ATOM	6181	O	HOH H 217	91.411	30.837	4.259	1.00	23.59	H
ATOM	6182	O	HOH H 218	99.019	37.803	25.178	1.00	37.20	H
ATOM	6183	O	HOH H 219	88.866	41.183	35.781	1.00	42.88	H
ATOM	6184	O	HOH H 220	66.946	25.931	12.530	1.00	45.53	H
ATOM	6185	O	HOH H 221	83.809	61.544	-0.645	1.00	32.51	H
ATOM	6186	O	HOH H 222	91.766	28.386	3.286	1.00	29.97	H
ATOM	6187	O	HOH H 223	83.302	45.674	11.423	1.00	40.65	H
ATOM	6188	O	HOH H 224	59.198	3.628	18.904	1.00	22.61	H
ATOM	6189	O	HOH H 225	34.553	-11.852	5.930	1.00	29.77	H
ATOM	6190	O	HOH H 226	88.953	22.712	24.560	1.00	23.54	H
ATOM	6191	O	HOH H 227	108.379	54.102	21.160	1.00	30.79	H
ATOM	6192	O	HOH H 228	44.957	16.820	6.827	1.00	37.14	H
ATOM	6193	O	HOH H 229	105.872	50.217	22.393	1.00	33.77	H
ATOM	6194	O	HOH H 230	40.390	52.287	-1.729	1.00	62.00	H
ATOM	6195	O	HOH H 231	103.837	27.586	24.806	1.00	50.76	H
ATOM	6196	O	HOH H 232	50.931	9.397	25.207	1.00	40.65	H
ATOM	6197	O	HOH H 233	64.739	2.382	27.973	1.00	46.98	H
ATOM	6198	O	HOH H 234	38.363	0.460	8.402	1.00	28.58	H
ATOM	6199	O	HOH H 235	73.577	50.129	18.561	1.00	36.68	H
ATOM	6200	O	HOH H 236	100.912	58.519	6.876	1.00	36.99	H
ATOM	6201	O	HOH H 237	100.664	26.841	26.380	1.00	36.27	H
ATOM	6202	O	HOH H 238	82.528	48.080	12.484	1.00	44.97	H
ATOM	6203	O	HOH H 239	70.870	44.782	13.746	1.00	26.53	H
ATOM	6204	O	HOH H 240	71.914	-9.049	17.302	1.00	59.29	H
ATOM	6205	O	HOH H 241	28.024	9.146	32.377	1.00	43.91	H
ATOM	6206	O	HOH H 242	55.531	-2.470	4.880	1.00	50.20	H
ATOM	6207	O	HOH H 243	63.362	16.623	21.334	1.00	30.95	H
ATOM	6208	O	HOH H 244	71.813	27.548	12.914	1.00	54.77	H
ATOM	6209	O	HOH H 245	22.793	-3.930	12.731	1.00	39.10	H
ATOM	6210	O	HOH H 246	73.087	44.091	34.124	1.00	47.86	H
ATOM	6211	O	HOH H 247	48.717	31.774	19.850	1.00	33.46	H

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ATOM   6212  O   HOH H 248     100.851  61.218   7.741  1.00 35.49      H
ATOM   6213  O   HOH H 249     116.291  47.311  12.227  1.00 49.67      H
ATOM   6214  O   HOH H 250      99.469  40.748  22.418  1.00 25.82      H
ATOM   6215  O   HOH H 251      52.271   4.031  24.614  1.00 44.68      H
ATOM   6216  O   HOH H 252     106.629  40.298  32.271  1.00 59.44      H
ATOM   6217  O   HOH H 253      45.587  -9.303   3.049  1.00 26.81      H
ATOM   6218  O   HOH H 254      52.547  -9.432  27.670  1.00 45.08      H
ATOM   6219  O   HOH H 255      75.854  21.157  27.640  1.00 42.33      H
ATOM   6220  O   HOH H 256      82.119  63.444  23.430  1.00 37.84      H
ATOM   6221  O   HOH H 257     104.091  38.660  18.936  1.00 30.29      H
ATOM   6222  O   HOH H 258      79.477  56.121   8.190  1.00 39.16      H
ATOM   6223  O   HOH H 259     101.351  32.257   5.631  1.00 29.94      H
ATOM   6224  O   HOH H 260      93.989  23.313  31.488  1.00 35.30      H
ATOM   6225  O   HOH H 261      28.754  -1.723   6.977  1.00 36.90      H
ATOM   6226  O   HOH H 262      93.007  48.370   9.901  1.00 49.06      H
ATOM   6227  O   HOH H 263      82.990  88.137   9.529  1.00 39.70      H
ATOM   6228  O   HOH H 264     118.031  51.582   0.542  1.00 36.21      H
ATOM   6229  O   HOH H 265      21.682  15.046  11.602  1.00 62.29      H
ATOM   6230  O   HOH H 266      34.210  24.576   5.314  1.00 18.89      H
ATOM   6231  O   HOH H 267      85.829  40.095  14.911  1.00 25.26      H
ATOM   6232  O   HOH H 268     102.070  38.308  21.059  1.00 41.79      H
ATOM   6233  O   HOH H 269      41.071  -2.346   7.039  1.00 38.87      H
ATOM   6234  O   HOH H 270      68.717   3.686  16.083  1.00 37.79      H
ATOM   6235  O   HOH H 271      27.094 -12.649  12.753  1.00 29.26      H
ATOM   6236  O   HOH H 272      36.426  24.744   4.145  1.00 45.88      H
ATOM   6237  O   HOH H 273      88.670  31.858   5.525  1.00 39.43      H
ATOM   6238  O   HOH H 274      90.819  38.524  36.028  1.00 30.15      H
ATOM   6239  O   HOH H 275      90.790  49.861  10.317  1.00 39.97      H
ATOM   6240  O   HOH H 276      77.026  11.969  13.970  1.00 44.87      H
ATOM   6241  O   HOH H 277      36.555  12.078  12.344  1.00 40.47      H
ATOM   6242  O   HOH H 278      52.331   7.302  24.972  1.00 49.30      H
ATOM   6243  O   HOH H 279      92.612  33.229   3.564  1.00 40.55      H
ATOM   6244  O   HOH H 280      83.546  64.142  25.612  1.00 50.28      H
ATOM   6245  O   HOH H 281      28.206  -1.891  36.868  1.00 44.06      H
ATOM   6246  O   HOH H 282      93.185  20.914  30.917  1.00 44.51      H
ATOM   6247  O   HOH H 283      98.176  41.763  24.500  1.00 44.20      H
ATOM   6248  O   HOH H 284      29.174  -0.123   4.304  1.00 46.75      H
ATOM   6249  O   HOH H 285      79.206  77.643  14.919  1.00 30.21      H
ATOM   6250  O   HOH H 286      90.531  26.085  37.436  1.00 36.96      H
ATOM   6251  O   HOH H 287      55.726   0.396  21.054  1.00 49.55      H
ATOM   6252  O   HOH H 288     111.246  30.915  19.699  1.00 42.91      H
ATOM   6253  O   HOH H 289      77.000  58.921   5.300  1.00 47.04      H
ATOM   6254  O   HOH H 290      34.339  -9.458   5.288  1.00 25.50      H
ATOM   6255  O   HOH H 291     109.784  29.168  15.534  1.00 45.96      H
ATOM   6256  O   HOH H 292      93.674  48.853  29.650  1.00 48.76      H
ATOM   6257  O   HOH H 293      92.299  47.066   3.801  1.00 37.41      H
ATOM   6258  O   HOH H 294     110.965  23.141  11.799  1.00 42.97      H
ATOM   6259  O   HOH H 295      90.562  45.235  33.919  1.00 33.83      H
ATOM   6260  O   HOH H 296      57.772 -10.500  25.018  1.00 49.78      H
ATOM   6261  O   HOH H 297      54.676  36.195  11.362  1.00 54.22      H
ATOM   6262  O   HOH H 298     107.263  59.234   5.282  1.00 56.05      H
ATOM   6263  O   HOH H 299      70.560  48.918   1.476  1.00 49.72      H
ATOM   6264  O   HOH H 300      84.037  38.916   5.971  1.00 39.33      H
ATOM   6265  O   HOH H 301      86.468  41.381  11.971  1.00 45.69      H
ATOM   6266  O   HOH H 302      24.400  11.569  23.610  1.00 36.73      H
ATOM   6267  O   HOH H 303      73.087  79.808   7.028  1.00 46.20      H
ATOM   6268  O   HOH H 304      72.681  43.116  14.941  1.00 51.84      H
ATOM   6269  O   HOH H 305      84.844  42.198  15.611  1.00 26.23      H
ATOM   6270  O   HOH H 306      54.135  19.007  24.978  1.00 27.41      H
ATOM   6271  O   HOH H 307      67.044  10.459  18.465  1.00 44.92      H
ATOM   6272  O   HOH H 308      82.262  49.436  14.864  1.00 39.04      H
ATOM   6273  O   HOH H 309     114.093  50.994  16.895  1.00 43.32      H
ATOM   6274  O   HOH H 310      64.428   3.092  30.590  1.00 43.29      H
ATOM   6275  O   HOH H 311      81.152  70.187  18.656  1.00 34.21      H
ATOM   6276  O   HOH H 312      74.596  81.584  -2.515  1.00 55.00      H
ATOM   6277  O   HOH H 313      61.161  25.774  22.464  1.00 32.98      H
ATOM   6278  O   HOH H 314      53.149  -7.019   4.754  1.00 26.01      H
ATOM   6279  O   HOH H 315      44.571   8.317  33.567  1.00 40.32      H
ATOM   6280  O   HOH H 316      82.293  49.769  10.587  1.00 35.22      H
ATOM   6281  O   HOH H 317      48.467   8.859  24.614  1.00 42.38      H
ATOM   6282  O   HOH H 318      56.588  -8.027   4.728  1.00 44.65      H
ATOM   6283  O   HOH H 319      31.280 -23.239  26.551  1.00 42.45      H
ATOM   6284  O   HOH H 320      82.483  40.137   7.719  1.00 39.22      H
ATOM   6285  O   HOH H 321      82.063  19.937  23.440  1.00 35.69      H
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ATOM   6286  O   HOH H 322     106.025  63.366  22.616  1.00 31.93      H
ATOM   6287  O   HOH H 323      46.181   9.890   8.669  1.00 38.11      H
ATOM   6288  O   HOH H 324      71.708  75.568   6.998  1.00 41.82      H
ATOM   6289  O   HOH H 325     108.280  34.405   3.851  1.00 30.72      H
ATOM   6290  O   HOH H 326      32.275  40.921  14.635  1.00 40.72      H
ATOM   6291  O   HOH H 327      37.556  15.785   5.690  1.00 42.29      H
ATOM   6292  O   HOH H 328      85.569  33.598  37.182  1.00 31.78      H
ATOM   6293  O   HOH H 329      33.070 -11.287  23.137  1.00 48.90      H
ATOM   6294  O   HOH H 330      87.593  16.513  19.683  1.00 45.53      H
ATOM   6295  O   HOH H 331     116.176  53.631  17.853  1.00 39.81      H
ATOM   6296  O   HOH H 332      26.940 -11.377  14.930  1.00 39.40      H
ATOM   6297  O   HOH H 333      60.033  28.679  22.456  1.00 32.84      H
ATOM   6298  O   HOH H 334      52.472  15.182   2.562  1.00 48.72      H
ATOM   6299  O   HOH H 335      84.377  54.588   4.646  1.00 40.99      H
ATOM   6300  O   HOH H 336     115.759  67.454  19.970  1.00 46.15      H
ATOM   6301  O   HOH H 337      88.969  52.684  25.112  1.00 42.31      H
ATOM   6302  O   HOH H 338      36.351  12.852   9.875  1.00 37.11      H
ATOM   6303  O   HOH H 339      97.702  31.578   2.653  1.00 49.82      H
ATOM   6304  O   HOH H 340      53.964  -6.543  26.981  1.00 35.52      H
ATOM   6305  O   HOH H 341      24.475 -17.438  17.094  1.00 38.04      H
ATOM   6306  O   HOH H 342      58.530   0.915  19.036  1.00 43.08      H
ATOM   6307  O   HOH H 343      77.156  37.203  39.025  1.00 48.54      H
ATOM   6308  O   HOH H 344      49.978  -1.361   0.435  1.00 39.48      H
ATOM   6309  O   HOH H 345      53.900  37.104  13.703  1.00 47.74      H
ATOM   6310  O   HOH H 346      77.886  49.625  13.575  1.00 57.13      H
ATOM   6311  O   HOH H 347      57.053   8.721   0.570  1.00 50.38      H
ATOM   6312  O   HOH H 348      96.803  63.745  10.854  1.00 41.14      H
ATOM   6313  O   HOH H 349      89.009  70.808  11.906  1.00 45.67      H
ATOM   6314  O   HOH H 350      66.363  22.353   8.221  1.00 42.47      H
ATOM   6315  O   HOH H 351      52.578  25.044   8.541  1.00 41.16      H
ATOM   6316  O   HOH H 352      81.789  73.640  -3.536  1.00 50.48      H
ATOM   6317  O   HOH H 353      67.632 -11.181  13.891  1.00 48.24      H
ATOM   6318  O   HOH H 354      41.357  -5.652  22.367  1.00 14.47      H
ATOM   6319  C1  EDO G 501      37.685  -5.096  30.876  1.00 23.96      G
ATOM   6320  O1  EDO G 501      38.224  -4.213  31.883  1.00 23.38      G
ATOM   6321  C2  EDO G 501      38.742  -6.046  30.406  1.00 25.29      G
ATOM   6322  O2  EDO G 501      39.062  -6.931  31.464  1.00 26.30      G
ATOM   6323  C1  EDO G 502      89.146  26.377  27.000  1.00 41.69      G
ATOM   6324  O1  EDO G 502      88.631  26.508  28.343  1.00 51.10      G
ATOM   6325  C2  EDO G 502      88.436  25.261  26.303  1.00 43.14      G
ATOM   6326  O2  EDO G 502      88.726  24.052  26.967  1.00 41.73      G
ATOM   6327  C1  EDO G 503      85.093  31.920  30.633  1.00 21.00      G
ATOM   6328  O1  EDO G 503      85.283  30.597  31.203  1.00 18.65      G
ATOM   6329  C2  EDO G 503      83.846  32.561  31.186  1.00 19.69      G
ATOM   6330  O2  EDO G 503      84.148  33.101  32.454  1.00 20.94      G
ATOM   6331  C1  EDO G 504      34.956   3.907  25.885  1.00 38.01      G
ATOM   6332  O1  EDO G 504      33.976   2.838  25.869  1.00 36.69      G
ATOM   6333  C2  EDO G 504      36.360   3.344  25.982  1.00 39.84      G
ATOM   6334  O2  EDO G 504      36.573   2.396  24.935  1.00 33.51      G
END
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Example 4

[91] Binding of altered gluten peptides (peptide analogs) to MHC molecules is assayedwith purified HLA molecules. Binding of labeled peptide to purified HLA DQ2 molecules can be measured as described by Johansen et al. (1996) Int Immmunol (8), 177-82. Briefly, purified DQ2 molecules (50 - 1000 nM) are incubated with the 125-I radiolabeled indicator peptide (MB 65kDa 243-255Y, sequence KPLLIIAEDVEGEY; 20 000 cpm, 1-5 nM) at pH 4.9. After incubation for 24 hours, the peptide bound to DQ2 and the non-bound peptide are separated on Sephadex G25 superfine spun columns. The radioactivity in the bound and non-bound fractions was counted in a gamma-counter, and the fraction of peptide bound to DQ2 (cpm in the bound fraction/total cpm recovered) is calculated. The binding capacities of the peptide binding inhibitors are assayed by testing their ability to inhibit the binding of the labeled indicator peptide. The concentration required to give 50%

inhibition (IC_{50}) is calculated. Since the level of IC_{50} may vary between separate titration experiments, the IC_{50} values are compared to the IC_{50} of a reference peptide by determining the relative binding capacity (RBC), which is the ratio: IC_{50} of reference peptide / IC_{50} of test compound. HLA-DQ2 molecules can be isolated by antibody affinity chromatography from lysates of HLA-DQ2 homozygous Epstein Barr virus transformed B-lymphoblastoid cell lines (detergent solubilized) or from water soluble, recombinant molecules produced similarly as described in Example 3 above. The recombinant molecules can be made with or without covalently linked peptide and with a biotin recognition sequence at the C-terminal end of the β-subunit that facilitates adsorption of HLA-DQ2 to several streptavidin coated supports, thereby enabling alternative ways for measurement of IC_{50}. A peptide analog with an IC_{50} value of less than 100 μM is suitable for further screenings.

[92] Alternatively, binding of altered gluten peptides to HLA-DQ2 can also be assayed using the soluble DQ2 heterodimer produced as described in Example 3 above. The presence of the biotin recognition sequence at the C-terminal end of the β-subunit facilitates adsorption of HLA-DQ2 to several streptavidin coated supports, thereby enabling measurement of IC_{50} or K_i.

[93] Candidate peptide analogs are further tested for their ability to inhibit proliferation of T cells specific for gluten peptides. This is done by using HLA-DQ2 restricted T cell clones (TCC) and glutaraldehyde fixed antigen presenting cells (e.g. Epstein Barr virus transformed B-lymphoid transformed cells) expressing HLA-DQ2. The antigen presenting cells are pelleted and resuspended in RPMI containing 0.05% glutaraldehyde for 90 sec, whereafter glycin to a final concentration of 0.2 M is added for 60 sec. The cells are then washed, counted, and resuspended in PBS or PBS buffered with citrate phosphate to a final pH of 4.9. The fixed APC are incubated overnight with various concentrations of peptides. The inhibitory peptides are usually added 30 min prior to the stimulatory peptide. The antigen presenting cells are then washed twice and resuspended in culture medium of RPMI-1640 supplemented with 15% v/v heat inactivated pooled human serum and the T cells are added. The experiments are performed in triplicates of 3-5 X 10^4 TCC with 5 X 10^4 fixed APC and various titrations of inhibitory and stimulatory peptides. Following an incubation period of 48 hours, each culture is pulsed with [^{3}H]-thymidine for an additional 12-18 hours. Cultures are then harvested on fiberglass filters and counted as above. Mean CPM and standard error of the mean are calculated from data determined in triplicate cultures. Peptide analogs that inhibit proliferation to approximately 25% at a concentration of 50 μM or greater are suitable for further screening.

[94] All publications and patent applications cited in this specification are herein incorporated by reference as if each individual publication or patent application were specifically and individually indicated to be incorporated by reference.

[95] Although the foregoing invention has been described in some detail by way of illustration and example for purposes of clarity of understanding, it will be readily apparent to those of ordinary skill in the art in light of the teachings of this invention that certain changes and modifications may be made thereto without departing from the spirit or scope of the appended claims.

WHAT IS CLAIMED IS:

1. An HLA-binding peptide inhibitor; wherein said inhibitor is an analog of an immunogenic gluten oligopeptide of at least about 8 residues in length, wherein the immunogenic gluten oligopeptide is altered by the replacement of one or more amino acids; and wherein said analog binds tightly to HLA molecules; is proteolytically stable; and does not activate disease-specific T cells.

2. The HLA-binding peptide inhibitor of Claim 1, wherein said analog comprises one or more naturally occurring amino acids, non-naturally occurring amino acids, modified amino acids, or amino acid mimetics.

3. The HLA-binding peptide inhibitor of Claim 2, wherein said analog is further derivatized to reduce the affinity of the analog for disease-specific T cell receptors.

4. The HLA-binding peptide inhibitor of Claim 1, wherein said immunogenic gluten oligopeptides comprises at least one PXP motif.

5. The HLA-binding peptide inhibitor of Claim 1, wherein said immunogenic gluten oligopeptides comprises a sequence selected from the group consisting of: PQPELPY; PFPQPELPYP, PQPELPYPQPQLP, PQQSFPEQQPP, VQGQGIIQPEQPAQ, FPEQPQQPYPQQP, FPQQPEQPYPQQP, FSQPEQEFPQPQ; PFPQPQLPY, PQPQLPYPQ, PFPQPELPY; PYPQPELPY and PYPQPQLPY.

[96] 6. The HLA-binding peptide inhibitor of Claim 1, wherein said inhibitor comprises the sequence PXPQPELPY, where X is Tyr, Trp, Arg, Lys, p-iodo-Phe, 3-iodo-Tyr, p-amino-Phe, 3-amino-Tyr, hydroxylysine, ornithine, Asp or Glu.

7. The HLA-binding peptide inhibitor of Claim 6, wherein said inhibitor is further derivatized to reduce the affinity of the analog for disease-specific T cell receptors.

8. The HLA-binding peptide inhibitor of Claim 6, wherein said inhibitor is further modified to increase binding potency to an MHC molecule.

9. The HLA-binding peptide inhibitor of Claim 1, wherein said inhibitor comprises the sequence $PFPQX_1ELX_2Y$, where X_1 and X_2 are independently selected from 4-hydroxy-Pro, 4-amino-Pro, or 3-hydroxy-Pro, and proline, with the proviso that at least one of X_1 and X_2 is a residue other than proline

10. The HLA-binding peptide inhibitor of Claim 9, wherein said inhibitor is further derivatized to reduce the affinity of the analog for disease-specific T cell receptors.

11. The HLA-binding peptide inhibitor of Claim 9, wherein said inhibitor is further modified to increase binding potency to an MHC molecule.

12. A method of treating Celiac Sprue and/or dermatitis herpetiformis, the method comprising:

administering to a patient an effective dose of an HLA-binding peptide inhibitor;

wherein said HLA-binding peptide inhibitor attenuates gluten toxicity in said patient.

13. The method of Claim 12, wherein said HLA-binding peptide inhibitor is administered with a glutenase.

14. The method according to Claim 12, wherein said HLA-binding peptide inhibitor is administered orally.

15. The method according to Claim 12, wherein said HLA-binding peptide inhibitor is contained in a formulation that comprises an enteric coating.

16. A formulation for use in treatment of Celiac Sprue and/or dermatitis herpetiformis, comprising:

an effective dose of an HLA-binding peptide inhibitor and a pharmaceutically acceptable excipient.

17. The formulation according to Claim 16, further comprising an enteric coating.

18. Use of an HLA-binding peptide inhibitor in the treatment of HLA-DQ2 positive individuals who are either pre-disposed to type I diabetes or have developed symptoms of type I diabetes.

19. A computer for producing a three-dimensional representation of a molecule wherein said molecule comprises an HLA-DQ2 molecule bound to an immunogenic gluten oligopeptide, wherein said computer comprises:

a machine-readable data storage medium comprising a data storage material encoded with machine-readable data, wherein said data comprises the three-dimensional coordinates of a subset of the atoms in an HLA-DQ2 molecule bound to an immunogenic

gluten oligopeptide;

a working memory for storing instructions for processing said machine-readable data;

a central-processing unit coupled to said working memory and to said machine-readable data storage medium for processing said machine readable data into said three-dimensional representation; and

a display coupled to said central-processing unit for displaying said three-dimensional representation.

20. A computer-assisted method for identifying potential modulators of Celiac Sprue and/or dermatitis herpetiformis, using a programmed computer comprising a processor, a data storage system, an input device, and an output device, comprising the steps of:

(a) inputting into the programmed computer through said input device data comprising the three-dimensional coordinates of a subset of the atoms in an HLA-DQ2 molecule bound to an immunogenic gluten oligopeptide, thereby generating a criteria data set;

(b) comparing, using said processor, said criteria data set to a computer database of chemical structures stored in said computer data storage system;

(c) selecting from said database, using computer methods, chemical structures having a portion that is structurally similar to said criteria data set;

(d) outputting to said output device the selected chemical structures having a portion similar to said criteria data set.